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HENRY A. WALLACE, *Secretary*
WEATHER BUREAU F. W. Reichelderfer, *Chief*

MONTHLY WEATHER REVIEW

NOVEMBER 1945

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CORRECTION

IN BOUNDARY MAPS OF THE UNITED STATES, October 1945, Vol. 72, page 373. Data should read:

	42,504	69	Dr. Velocity	
San Antonio, Tex.	3,000	19	231	5.8
San Antonio, Tex.	3,000	18	373	5.2

MONTHLY WEATHER REVIEW

Acting Editor, Robert N. Culnan

Vol. 73, No. 11
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NOVEMBER 1945

CLOSED JANUARY 5, 1946
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METEOROLOGICAL AND CLIMATOLOGICAL DATA FOR NOVEMBER 1945

AEROLOGICAL OBSERVATIONS

TABLE 1.—Mean free-air barometric pressure in millibars, temperature in degrees centigrade, and relative humidity in percent, obtained by radiosondes during November 1945

STATIONS AND ELEVATIONS IN METERS ABOVE SEA LEVEL

Altitude (meters) m. s. l.	Albany, N. Y. (93 m.)			Albuquerque, N. Mex. (1,620 m.)			Apalachicola, Fla. (5 m.)			Atlanta, Ga. (300 m.)			Big Spring, Tex. (774 m.)			Bismarck, N. Dak. (505 m.)			Boise, Idaho (868 m.)						
	Number of obser- vations	Pressure	Temperature	Relative humidity	Number of obser- vations	Pressure	Temperature	Relative humidity	Number of obser- vations	Pressure	Temperature	Relative humidity	Number of obser- vations	Pressure	Temperature	Relative humidity	Number of obser- vations	Pressure	Temperature	Relative humidity					
Surface	30	1,006	4.1	79	30	838	8.5	25	30	1,019	15.7	81	10.5	78	30	927	12.4	47	30	953	-4.3	20			
500	30	956	2.5	79	30	838	8.5	25	30	962	15.3	85	11.8	69	30	903	14.8	40	30	945	-2.0	20			
1,000	30	899	0.5	79	30	838	8.5	25	30	906	12.2	60	30	906	9.1	70	30	903	14.8	40	30	945	-2.0	20	
1,500	30	844	-0.7	72	30	838	8.5	25	30	854	9.8	58	30	852	6.9	64	30	851	13.6	34	30	840	-1.4	27	
2,000	30	793	-2.3	67	30	800	8.6	25	30	803	8.3	48	30	802	5.1	50	30	801	11.2	28	30	789	-3.1	29	
2,500	30	745	-4.2	62	30	754	5.3	27	30	756	6.9	38	30	754	3.1	47	30	755	8.1	26	30	749	-5.7	29	
3,000	30	699	-6.8	61	30	708	2.0	29	30	711	5.1	30	30	709	1.2	40	30	710	5.2	23	30	694	-8.4	21	
4,000	30	614	-11.3	60	30	625	-4.4	30	30	629	0.2	30	30	626	-3.5	30	30	627	-1.0	29	30	617	-12.6	28	
5,000	30	538	-16.9	58	30	550	-10.6	33	30	554	-6.3	30	30	550	-9.3	30	30	552	-7.8	29	30	533	-21.6	29	
6,000	30	470	-23.3	52	29	482	-17.1	29	487	-13.2	30	483	-16.1	28	485	-14.7	29	485	-28.9	29	472	-25.1	28		
7,000	30	409	-30.3	49	29	421	-24.6	29	426	-20.4	29	422	-23.4	26	424	-21.9	29	403	-36.1	29	410	-32.1	28		
8,000	28	355	-37.4	49	29	366	-32.6	29	372	-27.7	29	368	-30.9	26	370	-29.7	29	348	-43.0	29	355	-39.1	28		
9,000	28	306	-44.5	23	28	317	-40.3	28	323	-35.2	29	318	-38.4	25	321	-37.1	29	299	-49.0	24	306	-46.2	23		
10,000	28	263	-51.1	26	274	-47.8	28	279	-42.7	27	276	-45.2	25	277	-44.6	28	257	-53.9	23	263	-52.3	22			
11,000	28	225	-55.8	25	235	-55.0	28	240	-50.3	26	237	-52.0	25	238	-52.2	27	219	-55.5	18	226	-57.0	20			
12,000	22	192	-56.8	21	200	-59.8	26	205	-56.9	26	203	-58.3	23	204	-58.7	23	186	-56.7	10	191	-58.0	20			
13,000	19	164	-57.9	11	172	-62.7	23	175	-61.6	22	174	-62.0	18	173	-63.7	16	159	-55.5	12	162	-57.0	14			
14,000	13	139	-57.7	5	147	-63.5	18	149	-65.3	17	147	-64.9	13	146	-65.2	12	135	-54.4	12	135	-54.4	11			
15,000	9	119	-57.2	—	—	—	12	127	-67.6	8	124	-65.0	6	123	-66.3	9	115	-54.8	5	108	-55.2	5			
16,000	—	—	—	—	5	107	-69.9	—	—	—	—	—	6	125	-67.4	6	125	-67.0	8	122	-64.6	—			
	Brownsville, Tex. (6 m.)			Buffalo, N. Y. (221 m.)			Burrwood, La. (2 m.)			Caribou, Maine (191 m.)			Charleston, S. C. (14 m.)			Clovis, N. Mex. (1,306 m.)			Denver, Colo. (1,616 m.)						
Surface	30	1,016	21.2	82	30	980	4.8	75	24	1,019	19.2	75	30	983	-1.7	90	28	1,018	12.4	84	30	868	7.3	40	
500	30	960	19.6	77	30	956	4.1	73	24	962	16.3	70	30	956	-2.1	83	29	961	13.8	66	30	835	3.7	47	
1,000	30	905	16.5	73	30	896	1.8	74	24	906	12.9	64	30	897	-3.4	80	29	906	11.0	65	30	796	5.9	34	
1,500	30	854	14.8	57	30	844	0.0	69	24	854	10.9	55	30	842	-4.4	68	29	853	8.1	64	30	848	10.9	36	
2,000	30	804	13.7	45	30	793	-1.9	64	24	804	9.4	38	30	790	-5.4	60	28	802	5.0	56	30	798	9.6	27	
2,500	30	758	11.6	37	30	745	-4.0	58	24	757	8.3	30	741	-6.9	57	28	755	4.1	51	30	752	6.8	24		
3,000	30	714	8.7	31	30	698	-6.7	57	24	712	6.2	30	695	-8.8	54	28	709	2.0	41	30	707	3.7	24		
4,000	30	632	2.4	30	613	-12.0	52	24	630	0.6	30	610	-13.5	55	28	626	-2.3	30	624	-2.7	25	30	620	-5.9	47
5,000	30	557	-4.2	30	538	-18.3	57	23	555	-5.5	30	534	-19.2	56	28	551	-8.2	30	549	-8.9	30	544	-15.4	46	
6,000	30	490	-11.1	29	470	-24.2	22	488	-12.8	22	470	-26.5	28	466	-25.6	26	484	-14.8	30	482	-16.3	29	476	-22.7	—
7,000	30	430	-18.3	27	408	-31.5	22	427	-20.3	28	406	-32.2	28	423	-22.9	27	421	-24.2	29	414	-30.4	28	414	-30.4	—
8,000	29	375	-25.5	26	353	-38.1	22	373	-28.1	29	352	-39.3	28	368	-30.6	30	366	-31.7	28	359	-38.0	28	359	-38.0	—
9,000	29	326	-33.2	18	301	-46.5	22	323	-36.1	29	303	-46.1	24	319	-38.2	30	317	-39.3	26	310	-45.1	24	306	-51.5	—
10,000	29	282	-40.7	12	258	-52.6	22	279	-44.0	28	261	-52.1	23	275	-45.5	30	273	-47.0	24	266	-51.5	21	228	-55.6	—
11,000	29	243	-48.3	9	218	-55.1	20	240	-51.5	26	223	-57.2	21	236	-52.2	28	235	-53.8	21	228	-55.6	16	194	-56.0	—
12,000	29	208	-55.5	8	186	-56.2	20	206	-58.0	21	190	-58.4	18	203	-57.5	25	200	-58.5	16	194	-56.0	8	165	-57.9	—
13,000	27	177	-62.0	6	160	-55.9	20	175	-63.2	11	161	-66.7	10	174	-61.8	21	170	-62.3	8	155	-57.9	14	145	-63.9	—
14,000	21	150	-66.5	—	—	—	17	148	-66.2	6	139	-57.0	8	148	-65.2	14	145	-63.9	—	—	—	—	—	—	
15,000	14	142	-59.6	8	147	-66.4	—	—	—	6	123	-64.8	—	—	—	—	—	—	—	—	—	—	—	—	
16,000	5	104	-64.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	Dodge City, Kans. (787 m.)			El Paso, Tex. (1,195 m.)			Ely, Nev. (1,908 m.)			Fort Worth, Tex. (211 m.)			Glasgow, Mont. (648 m.)			Grand Junction, Colo. (1,414 m.)			Great Falls, Mont. (1,128 m.)						
Surface	30	923	6.8	48	30	882	12.7	29	30	800	0.0	67	29	902	14.7	58	20	936	-5.8	81	30	850	3.7	49	
500	30	900	10.2	41	30	851	15.3	24	30	800	1.5	60	29	802	9.3	34	20	859	-4.8	60	30	850	4.7	46	
1,000	30	847	9.0	34	30	802	12.0	24	30	800	1.5	60	29	802	7.8	62	30	799	3.2	41	30	790	-2.4	56	
1,500	30																								

TABLE 1.—Mean free-air barometric pressure in millibars, temperature in degrees centigrade, and relative humidity in percent, obtained by radiosondes during November 1945—Continued

STATIONS AND ELEVATIONS IN METERS ABOVE SEA LEVEL—Continued

Altitude (meters) m. s. l.	Green Bay, Wis. (182 m.)			Greensboro, N. C. (273 m.)			Hatteras, N. C. (3 m.)			Havana, Cuba. ¹ (51 m.)			Huntington, W. Va. (172 m.)			International Falls, Minn. (343 m.)			Joliet, Ill. (178 m.)							
	Number of obser- vations	Pressure	Temperature	Number of obser- vations	Pressure	Temperature	Number of obser- vations	Pressure	Temperature	Number of obser- vations	Pressure	Temperature	Number of obser- vations	Pressure	Temperature	Number of obser- vations	Pressure	Temperature	Number of obser- vations	Pressure	Temperature	Relative humidity				
Surface	26	992	1.0	77	30	986	7.7	75	21	1,020	15.4	79	30	998	7.2	81	30	971	-4.3	87	30	994	3.4	78		
500	26	954	-0.2	75	30	960	9.7	66	21	962	13.7	70	30	959	8.0	69	30	952	-5.2	88	30	955	2.3	74		
1,000	26	896	-2.2	76	30	903	7.5	66	21	906	10.5	68	30	859	5.8	67	30	893	-7.1	88	30	897	1.4	64		
1,500	26	841	-2.8	66	30	850	4.6	65	21	853	7.8	58	30	848	3.4	68	30	843	-6.3	73	30	843	0.6	54		
2,000	26	790	-4.2	56	30	799	2.3	60	21	802	5.5	54	30	797	-1.0	62	30	786	-6.4	64	30	792	-1.1	44		
2,500	26	741	-6.1	47	30	751	0.1	54	21	755	3.0	51	30	749	-8.1	65	30	737	-8.1	65	30	744	-3.1	42		
3,000	26	694	-8.6	45	30	706	-2.2	49	20	709	0.4	41	30	703	-3.9	58	30	690	-10.6	66	30	698	-5.8	44		
4,000	25	610	-13.8	33	30	622	-6.9	42	20	625	-3.9	32	30	619	-9.2	53	30	606	-16.3	66	30	614	-11.3	54		
5,000	25	534	-20.5	30	546	-13.4	43	20	550	-10.1	32	30	543	-15.1	48	30	530	-22.8	53	30	538	-17.4	56			
6,000	24	466	-27.2	30	478	-20.2	41	20	482	-16.8	32	28	474	-22.1	48	30	461	-29.4	52	28	470	-24.2	52			
7,000	23	404	-34.5	30	417	-25.9	39	19	421	-24.6	32	28	413	-28.6	42	30	400	-36.2	52	28	409	-31.0	52			
8,000	23	349	-41.4	30	362	-34.6	18	18	366	-31.6	32	27	359	-35.2	48	30	345	-43.3	52	28	353	-38.1	52			
9,000	22	201	-47.5	30	312	-41.9	16	16	317	-39.3	32	27	310	-41.6	50	30	297	-49.6	52	27	305	-43.8	52			
10,000	20	257	-53.4	30	269	-48.4	12	27	273	-46.6	32	27	267	-47.7	50	30	254	-54.2	52	26	262	-49.8	52			
11,000	18	220	-55.3	29	231	-54.4	9	233	-52.4	32	25	229	-53.3	52	28	218	-55.5	52	23	225	-53.4	52				
12,000	16	187	-55.5	28	198	-59.1	7	197	-57.3	32	25	195	-57.1	52	24	186	-55.2	52	18	192	-54.9	52				
13,000	16	160	-55.9	21	168	-62.0	6	168	-59.0	32	19	167	-59.4	52	16	158	-53.6	52	17	164	-56.5	52				
14,000	12	137	-56.2	13	142	-62.9	5	145	-62.1	32	15	142	-59.6	52	10	135	-54.1	52	13	140	-56.8	52				
15,000	12	127	-56.2	13	142	-62.9	5	123	-64.0	32	13	120	-59.1	52	6	116	-53.0	52	6	120	-58.2	52				
16,000	7	108	-69.1	—	—	—	5	105	-64.6	32	7	106	-65.3	52	8	102	-60.4	52	—	—	—	—				
	Lake Charles, La. (5 m.)			Lander, Wyo. (1,632 m.)			Las Vegas, Nev. (574 m.)			Little Rock, Ark. (79 m.)			Louisville, Ky. (165 m.)			Mazatlan, Mexico (80 m.)			Medford, Oreg. (409 m.)							
Surface	20	1,019	15.7	86	30	833	-2.3	70	30	950	11.3	29	30	1,008	12.1	73	30	908	8.3	71	30	1,004	24.4	77		
500	29	961	16.3	66	—	—	—	—	30	903	13.6	26	30	904	10.1	64	30	902	5.3	67	30	904	22.9	60		
1,000	29	906	13.6	55	—	—	—	—	30	801	7.0	30	30	800	6.5	51	30	797	1.6	54	30	804	17.0	40		
1,500	29	854	11.5	52	—	—	—	—	30	850	10.3	28	30	850	8.0	58	30	848	3.4	60	30	854	20.1	44		
2,000	29	804	10.0	44	30	795	0.5	49	30	801	7.0	30	30	800	6.5	51	30	797	1.6	54	30	804	17.0	40		
2,500	29	757	8.5	37	30	747	-1.7	46	30	754	3.7	31	30	753	4.2	46	30	749	-0.7	56	30	759	13.4	40		
3,000	29	712	6.2	34	30	702	-5.1	50	30	708	0.9	29	30	708	1.5	44	30	703	-3.3	50	30	715	9.7	42		
4,000	29	630	0.8	30	617	-11.6	55	30	624	-5.0	28	30	624	-3.8	51	30	619	-8.7	45	30	633	3.0	38			
5,000	29	555	-5.5	30	540	-18.3	57	30	549	-11.4	33	30	549	-10.2	52	30	543	-14.2	52	30	559	-3.5	32			
6,000	29	488	-12.4	30	472	-25.7	29	481	-18.5	36	30	482	-16.6	36	30	475	-20.5	52	29	491	-10.5	52	29	473	-23.2	52
7,000	29	427	-19.8	29	410	-33.1	29	420	-25.9	36	30	421	-23.8	36	30	415	-27.4	52	29	431	-17.1	52	29	412	-30.5	52
8,000	28	373	-27.2	29	354	-40.8	28	365	-33.5	36	30	366	-31.2	36	29	360	-34.3	52	28	376	-24.7	52	29	357	-37.8	52
9,000	27	324	-34.7	27	306	-47.4	28	316	-41.0	36	30	317	-38.8	36	28	311	-41.1	52	28	327	-32.6	52	25	308	-44.9	52
10,000	26	280	-41.8	27	263	-53.1	28	272	-48.4	36	30	274	-46.0	36	27	268	-47.4	52	28	283	-40.5	52	25	265	-51.6	52
11,000	25	241	-49.1	27	225	-57.5	27	233	-54.4	36	29	235	-53.2	36	26	231	-53.2	52	28	244	-48.1	52	24	227	-56.7	52
12,000	23	206	-55.7	19	192	-57.6	25	199	-58.3	36	25	201	-58.0	36	22	197	-57.9	52	27	209	-56.0	52	16	194	-58.2	52
13,000	22	176	-60.8	18	163	-58.4	20	169	-61.3	36	19	172	-61.3	36	17	168	-59.5	52	24	178	-63.2	52	12	166	-59.8	52
14,000	15	150	-64.7	7	138	-66.0	15	145	-62.0	36	14	146	-63.3	36	8	142	-58.6	52	16	151	-68.6	52	6	142	-60.8	52
15,000	10	127	-67.1	—	—	—	10	123	-63.6	36	9	124	-63.1	36	5	120	-58.5	52	10	127	-73.0	52	—	—	—	—
16,000	7	108	-74.3	—	—	—	5	105	-64.6	36	7	106	-65.3	36	—	—	—	—	—	—	—	—	—	—	—	—
	Merida, Mexico (27 m.)			Miami, Fla. (4 m.)			Nashville, Tenn. (180 m.)			North Platte, Nebr. (849 m.)			Oakland, Calif. (2 m.)			Ogden, Utah (1,355 m.)			Oklahoma City, Okla. (391 m.)							
Surface	24	1,012	23.6	74	30	1,017	19.9	83	30	997	10.1	71	30	915	2.3	66	30	1,019	13.1	79	30	885	2.2	72		
500	24	958	20.8	70	30	960	18.5	76	30	960	9.5	68	30	898	4.5	59	30	904	8.6	64	29	958	11.7	48		
1,000	24	905	18.1	69	30	906	15.1	75	30	903	7.0	68	30	845	5.3	48	30	851	6.4	53	30	850	3.4	64		
1,500	24	853	14.8	68	30	854	12.5	68																		

TABLE 1.—Mean free-air barometric pressure in millibars, temperature in degrees centigrade, and relative humidity in percent, obtained by radiosondes during November 1945—Continued

STATIONS AND ELEVATIONS IN METERS ABOVE SEA LEVEL—Continued

Altitude (meters) m. s. l.	Omaha, Nebr. (306 m.)			Phoenix, Ariz. (339 m.)			Pittsburgh, Pa. (382 m.)			Portland, Maine (30 m.)			Rapid City, S. Dak. (981 m.)			St. Louis, Mo. (171 m.)			St. Paul, Minn. (225 m.)					
	Number of obser- vations	Pressure	Temperature	Number of obser- vations	Pressure	Temperature	Number of obser- vations	Pressure	Temperature	Number of obser- vations	Pressure	Temperature												
Surface	27	978	4.5	63	30	975	12.0	51	29	971	5.6	76	30	1,015	2.9	82	30	900	0.4	63	30	996	7.3	70
500	27	955	4.3	62	30	957	18.8	29	29	958	5.5	74	30	957	2.8	76	30	958	6.1	60	30	953	1-2.3	72
1,000	27	898	4.4	54	30	903	16.4	26	29	901	3.9	70	30	899	0.9	60	30	897	0.8	62	30	900	4.9	65
1,500	27	845	3.2	55	30	851	12.9	27	29	847	1.6	67	30	845	-0.1	60	30	844	2.3	52	30	847	3.8	58
2,000	27	794	1.3	49	30	801	9.4	26	29	795	-0.6	63	30	793	-1.2	60	30	792	-0.1	53	30	796	2.0	54
2,500	27	746	-1.3	42	30	754	6.3	28	29	747	-3.0	58	30	745	-3.2	63	30	745	-2.8	53	30	748	-0.1	52
3,000	27	700	-4.2	43	30	709	3.5	27	29	701	-5.1	51	30	699	-5.7	55	30	699	-6.2	53	30	702	-2.9	51
4,000	26	616	-10.3	50	30	636	-2.7	22	29	616	-10.3	54	30	615	-10.8	55	30	614	-12.9	61	30	618	-8.7	47
5,000	26	540	-16.8	54	29	551	-9.2	27	29	541	-16.1	54	30	539	-17.0	60	30	538	-19.3	57	30	543	-15.1	50
6,000	26	472	-24.3	55	29	483	-16.5	28	28	473	-22.9	55	30	471	-23.0	50	30	469	-26.5	50	30	475	-21.9	50
7,000	25	411	-31.3	55	29	423	-24.3	28	28	412	-29.7	57	30	410	-29.9	50	30	408	-33.6	50	30	414	-29.3	50
8,000	25	356	-38.4	55	29	368	-32.1	28	28	357	-38.5	55	30	355	-37.3	29	30	353	-40.7	30	30	359	-36.2	30
9,000	25	307	-45.0	50	28	318	-30.8	26	26	309	-42.8	52	29	307	-44.3	29	29	304	-47.6	30	30	310	-42.7	27
10,000	24	264	-49.9	49	28	274	-47.3	25	26	248	-46.0	58	28	264	-50.8	29	29	261	-53.2	29	29	267	-48.8	28
11,000	24	227	-54.7	47	26	235	-54.4	20	228	-53.3	53	28	226	-56.5	23	223	-55.3	22	229	-53.7	27	221	-55.4	22
12,000	19	194	-57.9	50	24	201	-60.0	17	194	-56.1	51	26	193	-58.9	18	190	-57.2	18	197	-58.3	26	180	-56.4	21
13,000	13	163	-57.7	49	19	171	-62.8	14	166	-56.4	59	19	164	-59.8	12	162	-56.6	13	167	-58.8	21	161	-55.9	21
14,000	9	143	-59.2	47	16	146	-63.2	12	142	-58.0	55	138	-57.7	7	137	-57.3	7	141	-57.6	12	137	-54.7	12	
15,000								7	120	-56.1		8	118	-59.7				5	118	-55.5				

¹ Data not yet received.

NOTE.—All observations scheduled between 10 p. m. and midnight, E. S. T. (0000 and 0500, G. C. T.), except at Mazatlan and Merida, where they are taken near 9 p. m., E. S. T. (0000 G. C. T.).

(U.S.G.S. G.C.T.)
"Number of observations" refers to pressure only. (In a few cases temperature or humidity data may be missing for one or more levels of some observations.) Relative humidity data are not published for levels having a corresponding mean temperature below 35°C .

All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the values occurring below the operating range of the humidity element. For explanation of the adjustment see article entitled "Curve Method for Obtaining Monthly Means of Relative Humidity," p. 241, MONTHLY WEATHER REVIEW, December 1944.

None of the means included in these tables are based on less than 15 surface or 5 standard level observations.

Raob data for Havana, Cuba, will appear in a later issue.

LATE REPORT FOR SWAN ISLAND, WEST INDIES

TABLE 1.—Mean free-air barometric pressure in millibars, temperature in degrees centigrade, and relative humidity in percent, obtained by radiosondes during October 1945

STATIONS AND ELEVATIONS IN METERS ABOVE SEA LEVEL

Altitude (meters) m. s. l.	Swan Island, West Indies (10 m.)				Altitude (meters) m. s. l.				Swan Island, West Indies (10 m.)			
	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity
Surface	28	1,011	25.4	85	7,000				26	432	-13.8	52
500	28	956	23.0	81	8,000				26	378	-20.3	
1,000	28	903	20.0	78	9,000				26	329	-27.6	
1,500	28	853	17.2	75	10,000				25	286	-35.2	
2,000	28	804	14.5	72	11,000				24	247	-43.2	
2,500	28	757	11.8	68	12,000				24	212	-51.5	
3,000	28	714	9.2	66	13,000				22	181	-59.8	
4,000	28	632	3.6	61	14,000				21	154	-67.7	
5,000	27	558	-2.1	62	15,000				13	130	-74.2	
6,000	27	491	-7.8	57	16,000				5	109	-78.0	

CORRECTIONS

Data for October 1945, Table 2, page 170, should read:

	Alt. (m.)	Obs.	Dir.	Velocity.
San Antonio, Tex.	4,000	19	281	5.8
San Antonio, Tex.	5,000	15	278	8.2

TABLE 2.—Free-air resultant winds based on pilot balloon observations made near 5 p. m., E. S. T. (2200 G. C. T.) during November 1945. Directions given in degrees from north ($N=360^\circ$, $E=90^\circ$, $S=180^\circ$, $W=270^\circ$). Velocities in meters per second

Altitude (meters) m. s. l.	Abilene, Tex. (534 m.)	Albuquerque, N. Mex. (1,630 m.)	Atlanta, Ga. (299 m.)	Billings, Mont. (1,095 m.)	Bismarck, N. Dak. (512 m.)	Boise, Idaho (868 m.)	Browns-ville, Tex. (7 m.)	Buffalo, N. Y. (220 m.)	Burling-ton, Vt. (100 m.)	Charles-ton, S. C. (16 m.)	Cincinnati, Ohio (150 m.)	Denver, Colo. (1,627 m.)	El Paso, Tex. (1,198 m.)
	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations
Surface	30 195 2.5	30 264 2.0	27 265 2.1	28 276 2.8	27 306 2.6	29 85 1.5	30 140 4.9	28 241 3.0	26 182 1.1	29 258 0.7	29 238 2.6	30 294 2.8	30 257 2.6
500	27 223 3.9	—	27 267 2.6	—	27 295 4.0	29 123 1.7	29 158 5.4	28 245 6.0	28 287 4.1	23 242 7.0	—	—	—
1,000	29 236 5.6	—	23 274 4.9	28 262 6.0	23 290 6.3	29 208 2.9	26 177 5.1	26 213 7.3	24 246 9.3	29 284 2.1	29 231 4.3	—	—
1,500	27 249 8.6	30 259 3.2	23 278 7.4	27 270 9.2	22 287 9.1	26 251 5.3	21 216 3.2	27 294 4.3	21 248 10.7	—	—	—	30 257 3.4
2,000	27 258 10.8	30 273 5.1	21 285 8.2	26 277 9.5	22 288 10.3	22 254 7.8	19 237 1.7	10 275 14.9	18 259 11.5	30 293 3.5	256 4.7	—	—
2,500	26 265 12.7	30 280 8.2	18 200 8.6	24 276 11.3	21 290 11.6	21 257 9.4	17 261 11.2	16 280 4.7	16 286 6.6	16 260 11.8	30 286 5.2	30 258 6.7	—
3,000	25 274 16.3	30 278 14.6	11 298 10.7	20 287 15.0	17 297 12.4	12 261 11.2	16 280 4.7	10 279 14.6	26 286 8.2	12 269 13.1	29 275 6.8	30 257 0.3	—
4,000	25 274 17.8	30 275 18.6	16 282 19.7	14 296 15.4	—	—	15 255 5.9	—	22 285 12.4	—	28 285 15.0	26 270 14.1	—
5,000	22 277 18.4	27 273 20.8	—	15 287 19.0	13 266 20.9	—	14 269 8.3	—	18 276 16.6	—	24 285 19.9	19 265 13.9	—
6,000	16 272 19.9	27 271 23.3	—	—	—	—	11 265 13.6	—	13 289 19.6	—	22 284 24.2	—	—
8,000	13 272 20.9	14 270 23.7	—	—	—	—	—	—	11 279 23.9	—	11 279 23.9	—	—
10,000	13 272 20.9	14 270 23.7	—	—	—	—	—	—	—	—	—	—	—

	Ely, Nev. (1,910 m.)	Grand Junction, Colo. (1,413 m.)	Greensboro, N. C. (271 m.)	Havre, Mont. (767 m.)	Jacksonville, Fla. (16 m.)	Joliet, Ill. (178 m.)	Las Vegas, Nev. (573 m.)	Little Rock, Ark. (88 m.)	Medford, Oreg. (416 m.)	Miami, Fla. (12 m.)	Mobile, Ala. (66 m.)	Nashville, Tenn. (194 m.)	New York, N. Y. (15 m.)
	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations
Surface	29 203 1.4	30 262 2.2	26 245 1.3	28 280 1.8	30 30 1.3	26 222 4.3	30 58 0.6	28 202 2.0	26 215 0.7	30 158 0.4	25 238 2.5	25 311 2.6	30 283 2.6
500	—	—	26 249 2.9	25 244 5.7	28 267 4.1	30 291 0.7	26 221 5.8	—	28 220 4.2	26 196 1.0	30 54 5.1	30 228 4.5	25 283 4.6
1,000	—	30 292 2.4	22 244 4.6	26 265 9.0	29 272 2.5	19 254 2.5	30 235 0.9	25 260 7.8	25 265 4.6	26 242 1.6	23 230 6.3	24 271 6.8	—
1,500	—	29 231 4.2	30 264 3.0	22 264 6.0	25 273 9.5	28 273 4.4	14 270 9.9	29 249 3.4	23 279 9.4	16 234 7.3	26 246 3.7	26 276 4.7	27 276 4.7
2,000	29 201 2.1	30 264 3.0	22 264 6.0	25 273 9.5	28 273 4.4	14 270 9.9	29 249 3.4	23 279 9.4	16 234 7.3	26 246 3.7	26 276 4.7	27 276 4.7	27 276 4.7
2,500	29 231 4.2	30 264 4.5	21 273 6.7	23 271 10.0	20 264 284 4.8	13 270 12.4	20 259 4.6	20 281 13.1	13 241 7.0	25 237 2.4	21 308 4.6	18 247 9.1	16 275 10.3
3,000	28 246 5.9	29 241 7.0	19 266 6.2	21 276 12.6	24 294 6.2	13 274 14.4	20 270 5.9	18 283 14.7	11 254 6.5	22 298 4.2	18 282 4.4	16 276 10.2	15 274 1.5
4,000	22 268 10.5	26 265 10.0	18 278 8.1	16 275 14.2	22 284 10.0	—	28 270 9.9	15 301 16.0	16 282 6.1	13 290 7.4	14 281 15.6	—	—
5,000	19 274 14.8	22 277 15.0	15 273 10.9	—	20 288 14.4	—	28 274 12.8	12 311 21.0	15 275 8.3	—	13 288 18.7	—	—
6,000	18 270 18.0	20 282 18.3	15 273 14.7	—	16 279 16.6	—	23 269 14.3	11 304 25.0	15 274 9.7	—	10 282 20.3	—	—
8,000	14 275 23.5	14 286 23.6	—	—	13 276 20.2	—	15 276 17.6	—	11 279 15.0	—	—	—	—
10,000	11 302 18.2	—	—	—	—	—	12 285 21.1	—	—	—	—	—	—

	Oakland, Calif. (8 m.)	Oklahoma City, Okla. (306 m.)	Omaha, Nebr. (306 m.)	Phoenix, Ariz. (338 m.)	Rapid City, S. Dak. (982 m.)	St. Louis, Mo. (181 m.)	St. Paul, Minn. (226 m.)	San Antonio, Tex. (240 m.)	San Diego, Calif. (15 m.)	Sault Ste. Marie, Mich. (225 m.)	Seattle, Wash. (116 m.)	Spokane, Wash. (603 m.)	Washington, D. C. (24 m.)
	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations
Surface	28 254 2.5	29 224 2.5	29 268 2.8	30 262 0.9	29 342 3.2	29 219 2.2	26 252 0.9	29 173 2.3	28 284 4.0	23 244 1.2	28 195 3.8	29 201 2.8	26 284 1.6
500	28 274 2.6	29 222 2.9	29 264 3.2	30 237 1.1	29 227 4.3	26 218 1.5	29 217 2.5	28 202 3.5	23 242 1.0	28 203 6.5	—	26 254 3.1	—
1,000	23 259 2.9	29 226 4.2	27 266 4.7	30 196 1.1	29 340 3.4	27 251 6.6	20 248 4.8	28 187 4.2	26 287 1.1	19 243 2.7	24 214 9.4	29 210 5.2	26 256 5.6
1,500	22 289 2.9	29 245 6.7	26 267 6.3	30 209 1.1	29 314 5.6	26 264 8.3	14 260 9.8	27 208 4.0	25 235 0.3	14 279 5.4	21 214 12.8	23 224 7.9	26 249 8.5
2,000	18 284 3.8	28 256 9.0	25 275 10.0	30 246 1.0	27 295 7.1	23 283 10.8	14 266 8.3	25 235 4.5	22 5 1.4	10 278 8.6	14 219 13.0	16 230 8.5	20 264 10.4
2,500	18 281 5.3	28 264 12.6	25 284 12.6	30 270 2.7	25 283 9.2	20 286 10.6	11 272 14.6	21 261 6.8	22 326 2.1	10 215 11.1	13 238 9.7	20 273 12.0</td	

TABLE 3.—Maximum free-air wind velocities (m. p. s.) for different sections of the United States based on pilot balloon observations during November 1945

Section	Surface to 2,500 meters (m. s. l.)				Above 2,500 to 5,000 meters (m. s. l.)				Above 5,000 meters (m. s. l.)							
	Maximum velocity	Direction	Altitude (m.) m.s.l.	Date	Station	Maximum velocity	Direction	Altitude (m.) m.s.l.	Date	Station	Maximum velocity	Direction	Altitude (m.) m.s.l.	Date	Station	
Northeast ¹	44.4	SW.	1,427	7	Columbus, Ohio	48.3	NW.	3,607	16	Portland, Maine	73.0	WNW.	14,664	6	Albany, N. Y.	
East-Central ²	42.2	N.	2,458	15	Chattanooga, Tenn.	46.5	W.	4,494	22	Nashville, Tenn.	80.0	SW.	9,479	3	Nashville, Tenn.	
Southeast ³	40.0	NNW.	2,500	15	Atlanta, Ga.	45.6	NW.	4,421	15	Charleston, S. C.	54.6	W.	12,201	20	Jacksonville, Fla.	
North-Central ⁴	43.6	NNW.	2,112	4	Williston, N. Dak.	50.6	NW.	4,053	24	Green Bay, Wis.	76.1	WSW.	7,867	9	Marquette, Mich.	
Central ⁵	41.9	SW.	1,225	16	Kansas City, Mo.	53.2	W.	4,443	22	Goodland, Kans.	74.4	W.	8,488	12	Goodland, Kans.	
South-Central ⁶	42.3	NNW.	1,736	4	Tulsa, Okla.	50.6	NW.	4,521	23	Texarkana, Ark.	100.0	WSW.	14,151	13	Big Spring, Tex.	
Northwest ⁷	50.3	W.	2,500	11	Glasgow, Mont.	53.5	W.	4,831	4	Missoula, Mont.	80.0	NNW.	10,645	21	Pocatello, Idaho.	
West-Central ⁸	38.1	WSW.	2,456	7	Pueblo, Colo.	50.6	NW.	4,177	26	Denver, Colo.	74.0	SW.	8,733	11	Denver, Colo.	
Southwest ⁹	33.4	NW.	2,500	12	Sandberg, Calif.	60.0	W.	5,000	8	El Paso, Tex.	104.0	W.	6,143	8	El Paso, Tex.	

¹ Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, and northern Ohio.

² Delaware, Maryland, Virginia, West Virginia, southern Ohio, Kentucky, eastern Tennessee, and North Carolina.

³ South Carolina, Georgia, Florida, and Alabama.

⁴ Michigan, Wisconsin, Minnesota, North Dakota, and South Dakota.

⁵ Indiana, Illinois, Iowa, Nebraska, Kansas, and Missouri.

⁶ Mississippi, Arkansas, Louisiana, Oklahoma, Texas (except El Paso), and western Tennessee.

⁷ Montana, Idaho, Washington, and Oregon.

⁸ Wyoming, Colorado, Utah, northern Nevada, and northern California.

⁹ Southern California, southern Nevada, Arizona, New Mexico, and extreme west Texas.

RIVER STAGES AND FLOODS FOR NOVEMBER 1945

By C. R. JORDAN

Precipitation during November was above normal from eastern Arkansas and Tennessee northeastward over the Ohio Valley, the Middle and North Atlantic States, and the western Lake region; the northern Great Basin; the Pacific Northwest; and Wyoming. Amounts were much above normal in a broad strip extending from Tennessee to New York and Wyoming. State averages for New York and Pennsylvania were the highest for November in over 20 years. Precipitation was light over the Great Plains and quite generally over the southern half of the country. Virtually no rain fell in Arizona and New Mexico.

Stream flow was dominantly above normal and was excessive over broad areas in the Northeastern States and in parts of California, Nevada, and Oregon. A few stations reported the greatest run-off of record for November. However, the flow was well distributed throughout the month and no serious flooding resulted. Light local flooding was reported in Indiana and eastern Texas but caused little or no damage. Small floods were reported in northern California, western Oregon, and southwestern Washington.

FLOOD STAGE REPORT FOR NOVEMBER 1945

[All dates in November unless otherwise indicated]

River and station	Flood stage	Above flood stages—dates		Crest ¹		
		From	To	Stage	Date	
MISSISSIPPI SYSTEM						
Ohio Basin						
West Fork: Edwardsport, Ind.	Fest 12	21	23	Fest 12.8	22	
WEST GULF OF MEXICO DRAINAGE						
East Fork: Rockwall, Tex.	10	11	12	10.5	12	
PACIFIC SLOPE DRAINAGE						
Columbia Basin						
Coast Fork: Saginaw, Oreg.	9	19	19	9.0	19	
McKenzie:						
Leaburg, Oreg.	12	27	28	13.8	27	
Coburg, Oreg.	11	28	28	11.3	28	
Marys: Philomath, Oreg.	20	27	27	20.2	27	
Santiam: Jefferson, Oreg.	13	27	29	18.4	28	
South Yamhill:						
Willamina, Oreg.	8	26	27	11.0	26-27	
Whiteson, Oreg.	38	27	29	41.6	27	
Tualatin: Dilley, Oreg.	12	27	27	12.4	27	
Willamette:						
Harrisburg, Oreg.	12	19	20	13.2	19	
Oregon City, Oreg.	12	30	30	14.2	28	
				12.3	30	

¹ Provisional.

CLIMATOLOGICAL DATA FOR NOVEMBER 1945

CONDENSED CLIMATOLOGICAL SUMMARY OF TEMPERATURE AND PRECIPITATION BY SECTIONS

[For description of tables and charts, see REVIEW, January 1943, p. 15]

In the following table are given for the various sections of the climatological service of the Weather Bureau the monthly average temperature and total rainfall; the stations reporting the highest and lowest temperatures, with dates of occurrence; the stations reporting the greatest and least total precipitation; and other data as indicated by the several headings.

The mean temperature for each section, the highest and

lowest temperatures, the average precipitation, and the greatest and least monthly amounts are found by using all trustworthy records available.

The mean departures from normal temperatures and precipitation are based only on records from stations that have 10 or more years of observations. Of course, the number of such records is smaller than the total number of stations.

Section	Temperature								Precipitation							
	Section average	Departure from the normal	Monthly extremes						Section average	Departure from the normal	Greatest monthly		Least monthly			
			Station	Highest	Date	Station	Lowest	Date			Station	Amount	Station	Amount		
Alabama	57.0	+2.7	2 stations	87	12	Valley Head	16	24	3.55	+0.34	Waterloo	In.	13.30	Robertsdale	In.	.94
Arizona	50.4	-2	Granite Reef Dam	99	4	Alpine	-1	21	.01	-0.95	Burrus Ranch	In.	.20	102 stations	In.	.00
Arkansas	53.5	+2.2	Monticello	88	2	Gilbert	14	24	3.97	+.24	Parkin	In.	11.47	Bentonville	In.	.34
California	50.3	-1.9	San Jacinto	96	1	Ellery Lake	-10	30	3.14	+.73	Elk Valley	In.	24.18	21 stations	In.	.00
Colorado	35.3	-1	Eversoll Ranch	86	5	3 stations	-22	22	.48	-	Winter Park	In.	2.91	3 stations	In.	.00
Florida	64.9	-1	Eustis	93	11	Inverness	22	25	1.10	-1.03	Vero Beach	In.	5.11	2 stations	In.	.00
Georgia	56.2	+1.7	2 stations	87	2	Clayton	14	24	2.40	-.18	Ellijay	In.	4.77	Thomasville	In.	.35
Idaho	33.7	-1.6	Parma	76	3	Hill City	-17	21	2.89	+.82	Roland	In.	11.06	May	In.	.15
Illinois	42.8	+.6	East St. Louis	82	1	2 stations	9	22	2.60	-.01	2 stations	In.	5.40	Bluffs	In.	.66
Indiana	44.0	+1.6	Seymour	81	1	2 stations	12	14	3.38	+.33	North Vernon	In.	6.58	Columbia City	In.	1.16
Iowa	36.9	+.5	2 stations	81	5	Belmond	3	22	1.25	-.35	Lansing	In.	4.52	Mondamin	In.	.04
Kansas	45.8	+2.5	4 stations	88	5	Oberlin	0	23	.15	-1.10	Blue Rapids	In.	.83	4 stations	In.	.00
Kentucky	48.1	-1.7	Lovelaceville	86	1	2 stations	16	24	5.64	+.24	Corbin	In.	9.83	Ford's Ferry, Dam	In.	.325
Louisiana	62.0	-.3	4 stations	88	1	Tallulah	22	24	2.39	-.49	Winnfield	In.	5.64	Pearl River	In.	.83
Maryland-Delaware	48.4	+3.1	Millsboro, Del.	81	2	2 stations	12	26	4.17	+.33	Sines, Md.	In.	6.48	Annapolis, Md.	In.	1.68
Michigan	37.3	+1.0	Holland	78	7	Garnet	-3	26	2.80	+.36	Mancelona	In.	7.53	Whitefish Point	In.	.17
Minnesota	28.4	-1.2	Albert Lea	73	5	2 stations	-8	10	1.20	+.04	Winona	In.	5.52	Ada	In.	.10
Mississippi	58.3	-.3	Columbia	87	2	3 stations	19	24	4.22	+.60	Holly Springs	In.	13.51	Rio	In.	.08
Missouri	46.3	+1.8	Marshall	86	6	Maryville	6	22	1.30	-.26	Campbell	In.	5.15	Joplin	In.	.20
Montana	30.1	-2.0	6 stations	75	4	Opheim No. 1	-30	9	1.09	+.07	Heron	In.	6.68	3 stations	In.	T
Nebraska	39.2	+1.8	2 stations	88	5	Nenzel (near)	-3	23	.16	-.58	Auburn	In.	.81	13 stations	In.	.00
Nevada	40.5	+.6	Mesquite	86	6	2 stations	-9	21	.65	-.03	Montello	In.	2.59	4 stations	In.	.00
New England	39.3	+1.3	Weston, Mass.	78	3	Presque Isle, Maine	-3	29	5.43	+.87	East Wareham, Mass.	In.	10.61	Ft. Kent, Maine	In.	.247
New Jersey	46.1	+2.4	Clayton	80	2	2 stations	11	24	5.54	+.28	Elizabeth	In.	7.85	Burlington	In.	.301
New Mexico	43.2	+.7	3 stations	89	1	3 stations	-10	21	.02	-.61	Dulce	In.	.41	151 stations	In.	.00
New York	39.6	+1.5	Avon	76	7	Wanakena	1	26	4.95	+.10	Cutchogue	In.	8.08	Wilson	In.	.26
North Carolina	51.9	+1.9	2 stations	85	1	Mt. Mitchell	2	23	2.90	+.26	Nantahala	In.	5.80	Wadesboro	In.	.25
North Dakota	22.3	-4.4	Hettinger	75	4	Willow City	-26	10	.48	-.12	Mohall	In.	1.55	Ashley	In.	T
Ohio	43.3	+1.8	Chesapeake	80	1	3 stations	13	23	3.60	+.91	Athens	In.	6.78	Holgate	In.	.121
Oklahoma	52.8	+3.0	Hollis	94	5	Kenton	6	22	.45	-.54	Wilburton	In.	2.30	21 stations	In.	.00
Oregon	38.9	-1.4	Brookings	81	3	Austin	-5	21	6.00	+.27	Valsetz	In.	28.65	Plush	In.	.29
Pennsylvania	42.0	+.7	Marcus Hook	85	9	Corry	5	27	5.25	+.35	Newburg	In.	8.20	Austinburg	In.	.226
South Carolina	55.7	+2.0	Walterboro	89	11	Caesars Head	15	24	1.56	-.74	Caesars Head	In.	4.67	Blackville	In.	.08
South Dakota	32.9	-.3	Academy	82	5	Ralph	-13	8	.30	-.32	Camp Crook	In.	1.18	2 stations	In.	.00
Tennessee	50.7	+2.2	5 stations	82	1	Crossville	12	24	7.28	+.73	Brownsville	In.	14.31	Tri-City	In.	.257
Texas	60.7	+3.6	Falfurrias	94	1	Muleshoe	8	22	.88	-.24	Anahua	In.	4.90	37 stations	In.	.00
Utah	35.7	-1.7	Zion National Park	78	2	Woodruff	-16	22	1.82	+.84	Rice Canyon	In.	7.90	3 stations	In.	.00
Virginia	48.5	+1.9	2 stations	84	1	Big Meadows	9	24	3.43	+.99	Rose Hill	In.	6.60	Cootes Store	In.	.62
Washington	38.0	-1.7	3 stations	75	1	Chesaw	-7	8	6.51	+.215	Petersons Ranch	In.	27.25	Prosser (near)	In.	.82
West Virginia	44.9	+1.7	Charleston	84	13	Canaan Valley	4	26	5.29	+.252	Pickens No. 2	In.	9.29	Petersburg	In.	.275
Wisconsin	33.4	0	Brodhead	76	6	Big St. Germain Dam	-5	10	3.59	+.10	Coddington	In.	8.14	Cumberland	In.	.16
Wyoming	32.1	+.5	Wheatland	79	11	2 stations	-21	22	.87	+.14	Grassy Lake Dam	In.	6.68	Lookout	In.	.03
Alaska (October)	30.7	+.3	Susitna	63	1	Allakaket	-21	26	4.80	+.24	Little Port Walter	In.	48.17	Northway	In.	.27
Hawaii	72.9	+1.0	Lahaina	91	17	Haleakala, R. S.	41	17	4.62	-2.87	Makahanaloa No. 2	In.	34.00	Lahaina	In.	.08
Puerto Rico	75.2	-.9	Guayama	96	19	Cayey	47	26	4.30	-2.51	Mora Camp	In.	9.74	Coamo Dam	In.	.08

¹ Other dates also.

CLIMATOLOGICAL DATA FOR WEATHER BUREAU STATIONS FOR NOVEMBER 1945

District and station	Elevation of instruments		Pressure		Temperature of the air										Precipitation		Wind		0-10 In. In.														
					Barometer above sea level	Thermometer above ground	Anemometer above ground	Station	Sea level	Mean	Departure from normal	Maximum	Date	Mean maximum	Minimum	Date	Mean minimum	Greatest daily range	Total	Mean temperature of the dew point	Mean relative humidity	Total	Departure from normal	Greatest in 24 hours	Days with 0.01 inch or more	Average hourly velocity	Prevailing direction	Maximum velocity	Total snowfall	Snow, sleet, and ice on ground at end of month	Number of days with thunderstorms		
	Ft.	Ft.	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.				
NEW ENGLAND	Ft.	Ft.	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.				
Eastport	75	67	85	1,013.5	1,016.9	+6.3	+2.4	+3.6	+1.9	57	3	44	21	17	33	23	792	32	80	5.74	+2.5	15	12.5	nw.	55	e.	20	6	7.17	7.0	9.8	9.0	0
Greenville, Maine ¹	1,070	6	41	977.7	1,018.3	-30.7	+1.1	+1.9	+1.9	53	13	38	6	26	24	24	1,028	-3.6	+1.0	1.05	12	-	nw.	-	-	20	5	4.21	21	31	13.0	0	
Portland, Maine ¹	103	5	43	1,012.3	+1,017.5	-37.8	-2	64	8	46	18	27	29	28	32	819	33	88	5.10	+1.6	1.69	14	9.6	n.	50	e.	20	8	6.16	8.8	11.0	5.2	0
Concord ¹	269	5	45	1,006.4	1,018.0	-0.38	+2.6	74	9	48	11	27	28	32	812	32	84	3.92	+8.1	2.23	16	8.3	nw.	39	e.	20	5	8.17	7.1	4.8	3.6	0	
Burlington ¹	403	5	51	1,001.7	1,017.3	-3.37	6.6	+1.7	67	9	45	14	27	30	27	823	32	82	4.45	+8.8	7.77	16	11.1	s.	33	s.	13	5	3.22	7.7	9.3	4.6	0
Boston ¹	124	33	62	1,012.2	1,017.3	-3.45	-3.5	74	9	53	30	24	42	21	584	37	76	6.86	13	13.4	nw.	63	ne.	29	5	7.18	7.1	4.9	2.6	0			
Nantucket	12	11	59	1,015.9	1,016.6	-1.047.4	+3.0	66	3	53	30	24	42	21	529	42	84	6.38	13	14.2	n.	47	ne.	29	5	12.13	0.8	T	0	0			
Block Island	26	11	46	1,015.2	1,016.6	-1.447.0	+2.4	65	65	53	30	24	41	20	539	40	80	6.69	+2	2.01	12	10.1	n.	54	ne.	29	6	13.11	0.2	5	5	1	
Providence ¹	159	46	60	1,011.2	1,017.3	-1.045.7	+5.3	74	9	54	24	27	38	25	678	36	80	5.81	+2.3	1.59	15	8.6	n.	42	nw.	20	4	10.16	7.0	10.2	5.9	0	
Hartford ¹	159	5	44	1,018.0	1,017.6	-6.624.2	+2.9	72	9	51	18	27	33	-	640	34	80	5.81	+2.2	1.28	14	8.2	ne.	32	se.	22	7	8.15	6.4	4.2	2.7	0	
New Haven ¹	107	5	39	1,013.2	1,017.6	-7.43	7.3	+3.8	67	9	52	24	24	36	28	640	38	82	5.28	+2.2	1.28	14	8.2	ne.	32	se.	22	7	8.15	6.4	4.2	2.7	0
MIDDLE ATLANTIC																																	
Albany ¹	97	26	40	1,013.5	1,017.3	-1.39.6	+3.3	68	9	47	17	27	32	36	759	34	80	4.38	+1.9	0.99	16	9.6	s.	38	w.	20	3	7.20	7.8	7.7	7.5	0	
Binghamton ²	871	60	79	984.8	1,017.6	-1.41.45	+2.8	72	8	49	27	34	37	36	706	34	81	5.01	+2.6	1.39	16	6.7	n.	20	w.	5	6.19	7.6	3.9	2.0	1		
New York ¹	314	415	454	1,005.4	1,017.3	-1.7	47.4	+3.2	73	8	53	23	24	40	25	530	38	72	4.26	+2.0	1.93	15	16.7	n.	54	nw.	20	6	10.14	6.1	2.8	2.0	0
Harrisburg ¹	374	70	40	1,004.1	1,018.3	-1.44.6	+1.8	73	9	53	22	24	36	25	613	35	74	5.54	+3.3	1.84	15	8.4	nw.	34	nw.	20	6	6.18	7.0	T	0	0	
Philadelphia ¹	114	5	57	1,012.5	1,017.3	-1.04.6	+2.9	75	8	56	25	24	41	25	496	38	80	5.69	+3.0	3.38	16	7.9	n.	25	se.	22	10	6.14	5.9	2	0	0	
Reading ¹	323	47	306	1,008.8	1,018.3	-4.58.8	+1.9	73	9	54	23	24	38	35	575	-	80	5.07	+2.3	1.70	17	12.0	nw.	40	w.	22	7	10.13	6.5	T	0	0	
Scranton ¹	805	72	104	983.2	1,018.3	-7.42.4	+1.9	71	8	50	20	24	34	32	682	-	80	4.65	+3.2	1.42	17	6.8	n.	25	sw.	3	6	10.14	6.6	1.6	4	1	
Atlantic City ¹	52	37	172	1,018.0	-1.349.6	+4.0	71	8	56	25	24	45	-	455	44	84	3.28	+5.1	1.18	10	17.1	w.	57	se.	22	8	10.12	-	1.1	0	2		
Trenton ¹	190	89	107	1,010.2	1,018.0	-47.0	-2.6	73	8	55	24	24	39	29	540	37	74	4.04	+3.2	1.31	15	10.0	s.	34	ne.	22	8	8.14	6.1	1.9	1.3	0	
Baltimore ¹	123	100	215	1,013.5	1,018.3	-1.349.6	+3.3	77	9	57	27	24	42	28	464	38	72	3.92	+4.1	1.30	12	10.4	sw.	33	se.	22	10	9.11	5.7	T	0	0	
Washington ¹	112	56	100	1,013.9	1,018.6	-1.49.0	+3.8	78	2	58	26	24	40	36	485	38	72	4.62	+2.2	1.75	12	7.8	s.	25	n.	14	10	3.17	6.2	T	0	1	
Cape Henry ¹	18	8	54	1,017.3	1,018.3	-54.6	+2.5	82	2	62	28	24	47	28	511	36	72	3.33	+1.0	1.11	10	9.0	s.	26	nw.	15	10	7.13	5.6	T	0	0	
Lynchburg ¹	686	4	50	993.2	1,018.6	-1.748.0	+2.8	78	2	58	24	23	38	34	511	36	72	3.33	+1.0	1.11	10	9.0	s.	26	nw.	14	10	9.11	5.5	T	0	0	
Norfolk ¹	91	80	125	1,015.2	1,019.0	-6.54.2	+2.8	82	2	63	27	24	46	29	538	44	80	4.02	+1.9	2.45	9	10.8	s.	33	nw.	14	10	9.11	5.5	T	0	0	
Richmond ¹	144	11	52	1,012.9	1,018.6	-1.461.1	+2.8	82	2	61	26	24	41	36	423	40	75	3.12	+9	0.75	10	8.8	sw.	27	nw.	14	10	7.13	5.6	0	0	1	
SOUTH ATLANTIC																																	
Asheville ¹	2,253	77	92	939.0	1,020.0	-7.47.9	+2.8	79	2	58	21	23	37	41	513	36	72	2.96	+7.1	2.10	8	9.7	nw.	27	nw.	20	12	7.11	5.2	T	0	1	
Charlotte ¹	779	63	86	990.9	1,019.6	-7.52.8	+2.2	80	2	63	24	24	43	34	369	41	76	1.56	-1.0	0.69	6	6.9	sw.	21	sw.	20	13	6.11	5.1	0	0	0	
Greensboro ¹	886	6	56	1,019.3	-1.052.2	+2.9	81	1	61	21	24	37	-	450	39	80	3.20	+7.1	1.02	7	8.3	sw.	26	w.	19	12	5.13	-	0	0	3		
Hatteras ¹	11	5	50	1,018.6	1,019.3	-3.59.2	+2.9	79	10	66	34	24	52	22	215	51	80	2.84	-6	0.98	11	14.2	w.	43	nw.	15	11	13	6	4.5	0	0	0
Raleigh ¹	376	5	69	1,005.1	1,019.3	-1.053.5	+2.5	82	1	64	23	24	43	33	359	42	80	2.06	-2	0.80	8	7.3	nw.	21	s.	20	12	10.0	5.4	0	0	0	
Wilmington ¹	72	73	107	1,016.6	1,019.6	-7.57.6	+1.6	81	1	67	28	24	46	31	260	50	82	2.43	+5.1	1.17	9	9.0	n.	21	s.	15	16	6	8	4.1	0	0	
Charleston ¹	48	11	92	1,017.6	1,019.6	-460.0	+1.9	81	2	68	31	24	52	24	200	48	73	1.31	-1.1	0.41	8	7.8											

CLIMATOLOGICAL DATA FOR WEATHER BUREAU STATIONS FOR NOVEMBER 1945—Continued

District and station	Elevation of instruments		Pressure		Temperature of the air										Precipitation		Wind		Snow, sleet, and ice on ground at end of month		Number of days with thunderstorms												
					Sea level	Departure from normal	Mean	Maximum	Date	Mean maximum	Minimum	Date	Mean minimum	Greatest daily range	Total degree days	Mean temperature of the dew point	Total	Days with 0.01 inch or more	Average hourly velocity	Prevailing direction	Maximum velocity	Date	Clear days	Partly cloudy days	Cloudy days								
	Station	Barometer above sea level	Thermometer above ground	Anerometer above ground	Station	Sea level	Departure from normal	Mean	Maximum	Date	Mean maximum	Minimum	Date	Mean minimum	Greatest daily range	Total degree days	Mean temperature of the dew point	Total	Days with 0.01 inch or more	Average hourly velocity	Prevailing direction	Maximum velocity	Date	Clear days	Partly cloudy days	Cloudy days							
OHIO VALLEY AND TENNESSEE	ft.	ft.	ft.	mb.	mb.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.						
Chattanooga ¹	762	6	66	991.5	1,019.6	-1.1	51.2	+3.3	78	1	62	21	24	40	40	413	44	80	5.40	+2.1	11	9.1	s.	35	nw.	21	9	10	11	6.7	4		
Knoxville ¹	995	27	53	983.4	1,020.0	+1.0	50.6	+4.1	79	11	61	23	24	40	35	433	40	76	4.02	+1.0	9	8.4	s.	35	w.	27	12	5.5	5.5	0	2		
Memphis ¹	399	5	86	1,003.7	1,018.6	-1.4	53.0	+2.9	78	8	63	25	23	43	31	386	43	76	10.26	+6.0	13	9.6	s.	28	n.	13	12	7.1	5.1	0	3		
Nashville ¹	546	5	72	998.6	1,018.6	-1.4	50.1	+1.1	79	1	59	21	24	41	36	456	40	74	9.04	+5.5	31	12.0	s.	31	nw.	21	10	7.13	5.8	0	4		
Lexington ¹	689	4	28	981.7	1,019.3	-7.4	46.4	+1.6	80	1	55	22	23	38	30	563	38	75	5.15	+1.8	13	—	s.	10	2	218	6.5	T	0	2			
Louisville ¹	825	106	120	998.6	1,018.0	-2.0	47.0	+2.0	79	1	56	22	23	39	33	547	38	78	5.23	+1.6	13	10.3	s.	30	w.	21	8	5.17	6.7	.5	4		
Evansville ¹	431	11	40	1,001.7	1,017.6	-2.4	46.2	+1.8	78	1	55	22	24	37	30	569	38	78	4.32	+1.6	12	10.9	s.	34	s.	1	7	6.17	6.6	T	0	3	
Indianapolis ¹	823	5	54	986.5	1,017.3	-3.0	42.2	+1.5	71	1	51	17	24	34	28	684	35	79	3.19	—	13	—	s.	35	sw.	8	1	7	2.21	7.1	1.0	0	6
Terre Haute ²	575	68	140	995.9	1,017.6	-4.3	6.0	—	74	1	52	21	24	36	30	638	36	80	5.18	+1.9	14	11.6	s.	31	sw.	1	7	5.18	6.9	1.7	0	3	
Cincinnati ¹	627	11	51	994.6	1,018.3	-1.7	45.9	+3.4	76	12	54	22	23	38	30	578	37	76	4.14	+1.3	9.5	9.1	s.	22	sw.	21	7	5.18	6.9	1.7	0	6	
Columbus ¹	822	90	110	987.5	1,018.0	-1.6	44.2	+2.3	74	8	51	21	23	37	29	623	36	81	3.01	+2.2	14	11.6	s.	43	s.	21	5	7.18	7.7	.4	0	2	
Dayton ¹	1,003	6	55	980.6	1,017.6	-4.2	6.6	+2.2	73	8	51	18	23	34	30	576	35	80	3.09	+2.1	16	11.0	s.	36	w.	21	5	4.21	7.8	T	0	2	
Elkins ¹	1,947	4	45	948.2	1,019.3	-7.2	42.5	+3.2	78	7	54	17	26	31	42	673	36	84	6.21	+3.4	12	7.6	nw.	39	w.	22	4	7.19	7.2	10.0	4.1	3	
Parkersburg ¹	637	77	84	994.2	1,018.0	-2.0	46.6	+2.8	77	1	55	24	23	38	38	554	36	74	4.89	+2.3	9.7	17	7.9	s.	28	nw.	17	5	7.18	7.3	.5	0	3
Pittsburgh ¹	842	39	54	986.5	1,018.0	-1.3	43.4	+2.2	74	7	51	18	23	36	27	647	34	74	3.79	+1.5	18	10.9	s.	34	w.	22	2	6.22	7.8	.6	T	0	
LOWER LAKES																																	
Buffalo ¹	768	34	96	987.8	1,016.6	-1.0	40.9	+2.4	70	7	48	19	24	34	30	727	33	76	3.95	+0.2	17	14.2	sw.	38	sw.	22	2	5.23	8.0	25.2	8.0	1	
Canton	448	10	61	999.7	1,016.6	—	36.1	+1.1	72	8	44	8	26	28	32	868	30	84	3.81	+1.6	9	9.1	sw.	30	e.	30	5	5.20	7.8	9.1	5.8	1	
Oswego	335	71	85	1,003.7	1,016.6	-1.0	41.0	+1.6	73	8	47	23	30	25	25	721	32	70	5.41	+2.0	12	11.5	s.	30	n.	15	2	4.24	8.0	10.0	6.8	1	
Rochester ¹	523	5	69	997.0	1,016.9	-7.4	40.6	+3.9	73	8	48	20	24	33	38	735	33	79	5.10	+2.6	13	10.5	sw.	37	w.	16	1	6.23	8.4	10.9	10.7	1	
Syracuse ¹	506	5	57	994.6	1,017.3	-7.4	40.5	+3.3	74	7	48	20	30	33	37	733	34	80	4.83	+1.8	12	10.5	s.	32	sw.	22	2	4.24	8.2	7.8	5.3	0	
Erie ²	714	57	81	991.9	1,016.9	-1.1	44.0	+2.6	75	8	50	22	23	38	38	630	35	77	2.97	+3.3	13	9.5	sw.	27	se.	21	1	7.22	8.1	.4	1	T	
Cleveland ¹	762	27	54	988.5	1,016.9	-1.4	43.2	+2.4	72	8	50	19	23	36	35	655	34	76	1.86	+1.8	12	12.7	s.	37	w.	21	2	9.19	7.8	1.3	0	2	
Sandusky	629	5	67	992.9	1,016.6	-2.0	43.7	+2.6	73	8	51	18	23	37	32	641	31	61	—	—	11	11.0	sw.	30	w.	22	5	6.19	7.4	.6	0	1	
Toledo ¹	628	5	47	992.9	1,016.3	-2.0	41.6	+2.9	73	8	50	18	23	33	34	708	34	80	1.24	+1.2	9	12.9	sw.	34	sw.	22	2	7.21	7.9	.2	0	3	
Fort Wayne ¹	857	5	33	984.1	1,016.3	-4.0	40.4	+1.6	71	8	49	17	23	32	34	741	34	83	1.55	+1.3	47	11.8	w.	34	nw.	23	4	8.23	7.5	.7	0	1	
Detroit ¹	730	5	78	988.8	1,016.6	-1.4	41.8	+2.6	60	8	49	19	23	35	32	609	34	76	1.72	+1.2	43	11.6	s.	20	sw.	22	2	4.24	8.2	.1	0	1	
UPPER LAKES																																	
Alpena	600	5	89	991.5	1,014.2	-2.1	37.4	+3.0	65	8	44	18	23	31	29	826	31	79	2.08	+5.6	16	12.7	sw.	42	se.	1	8	21	8.2	3.2	0	1	
Escanaba ¹	612	51	72	990.5	1,013.9	-3.0	34.0	+1.9	54	8	40	11	20	28	24	928	28	58	5.63	+3.5	20	11.10	nw.	33	s.	12	3	6.21	8.0	8.9	3.0	2	
Grand Rapids ¹	707	70	244	988.2	1,014.2	-2.7	40.4	+2.0	69	8	47	23	24	33	32	741	32	80	2.65	+1.1	14	11.4	sw.	33	sw.	12	2	6.22	8.0	9.2	0	1	
Lansing ¹	878	5	50	982.7	1,015.6	-3.9	33.3	+1.8	68	8	46	18	22	32	34	772	31	76	1.11	+1.4	14	10.3	sw.	27	w.	8	2	4.24	8.3	.6	0	1	
Marquette ¹	734	44	73	985.4	1,012.9	-3.7	33.5	+2.2	60	8	46	19	22	30	39	847	27	79	5.04	+2.1	14	12.0	sw.	10	1	4.25	8.6	14.3	3.5	4			
Sault Ste. Marie ¹	614	11	52	990.2	1,013.9	-2.4	32.6	+2.2	58	13	38	10	26	27	30	976	27	83	3.12	+1.1	9.4	12.8	s.	39	s.	13	2	4.24	8.4	15.4	4.1	1	
Chicago ¹	673	4	36	980.2	1,015.6	-2.7	39.8	+2.1	74	7	48	15	22	32	34	800	32	77	2.88	+4.8	12	12.3	s.	37	s.	16	3	9.18	7.6	.7	0	3	
Green Bay ¹	617	6	32	990.9	1,014.2	-3.1	34.5	+1.5	68	8	41	18	23	30	38	916	26	77	3.91	+1.8	12	12.0	s.	37	s.	16	3	9.18	7.6	.7	0	3	
Milwaukee ¹	681	33	66	989.5	1,014.6	-3.0	37.4</																										

CLIMATOLOGICAL DATA FOR WEATHER BUREAU STATIONS FOR NOVEMBER 1945—Continued

District and station	Elevation of instruments		Pressure		Temperature of the air								Precipitation		Wind		Total snowfall																		
			Barometer above sea level	Thermometer above ground	Station	Sea level	Departure from normal	Mean	Departure from normal	Maximum	Date	Mean maximum	Minimum	Mean minimum	Greatest daily range	Total degree days	Mean temperature of the dew-point	Total	Departure from normal	Greatest in 24 hours	Days with 0.01 inch or more	Average hourly velocity	Prevailing direction	Miles per hour	Direction	Date	Clear days	Partly cloudy days	Cloudy days	Average cloudiness, tenths	Number of days with thunderstorms				
	ft.	ft.	ft.	ft.	ft.	ft.	ft.	ft.	ft.	ft.	ft.	ft.	ft.	ft.	ft.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	in.	in.	in.	in.	in.	in.					
MIDDLE SLOPE																																			
Denver ¹	5,292	106	113	834.7	1,013.2	-4.8	43.6	+3.8	76	5	56	13	21	31	44	641	18	42	-0.1	0	.21	6.78	s.	26	ne.	7	15	10	5	4.1	5.5	0			
Pueblo ¹	4,600	5	36	834.7	1,015.6	-2.0	41.8	+3.5	80	4	60	21	24	55	606	18	49	-0.3	0	.06	2.8	s.	25	sw.	6	16	9	5	3.9	5.1	0				
Concordia ¹	1,392	60	88		1,015.2	-3.4	43.6	+2.2	80	5	57	16	22	30	44	647	29	62	-0.8	0	.28	2.8	s.	15	19	6	5	—	—	2					
Dodge City ¹	2,509	5	58	822.2	1,014.9	-3.4	46.2	+3.6	83	6	61	13	22	31	42	664	27	55	-0.1	0	.01	15.9	s.	43	sw.	15	16	9	5	3.9	5.1	0			
Wichita ¹	1,358	6	64	966.1	1,015.2	-3.4	48.0	+3.2	80	6	60	21	23	36	39	514	30	56	-0.1	0	.03	24.7	s.	42	s.	15	11	15	4	4.6	T	0			
Oklahoma City ¹	1,214	10	47	972.6	1,016.3	-2.3	53.7	+4.9	85	6	66	26	23	42	34	355	35	66	-0.6	0	.27	2.6	s.	24	s.	16	13	11	6	4.2	0	0			
Tulsa ¹	674	10	60	991.5	1,015.9	-0.9	52.2	+3.3	87	6	65	24	23	40	40	405	38	65	-0.10	0	.09	212.5	s.	38	sw.	16	12	12	6	4.5	0	2			
SOUTHERN SLOPE																																			
Abilene ¹	1,738	4	59	954.6	1,015.9	-2.4	57.5	+5.0	91	1	71	23	23	44	43	262	38	58	-0.14	0	.48	213.3	s.	38	nw.	20	16	8	6	3.9	5.0	0			
Amarillo ¹	3,676	5	42	888.9	1,015.6	-2.0	49.0	+5.2	82	5	64	18	22	34	43	477	27	47	-0.9	0	.05	14.7	sw.	43	w.	16	19	7	4	3.3	5.0	0			
Del Rio	900	63	71	982.1	1,015.9	-1.7	63.4	+3.4	86	1	75	36	22	52	38	107	49	64	-0.6	0	.05	2.7	se.	25	nw.	21	13	8	9	4.8	5.0	0			
Roswell	3,566	75	85	893.3	1,015.2	-1.7	52.0	+3.9	85	5	69	19	22	35	53	392	24	39	-0.00	0	.00	7.7	s.	28	n.	20	20	5	5	3.2	5.0	0			
SOUTHERN PLATEAU																																			
El Paso ¹	3,778	39	85	887.2	1,014.9	-1.0	54.9	+3.8	82	5	70	26	22	40	43	310	27	36	0.00	0	.00	0.88	s.	38	sw.	5	17	7	6	3.6	5.0	0			
Albuquerque ¹	5,314	5	45	888.5	1,016.3	-4.5	52.1	+1.9	73	5	60	21	31	40	48	503	18	55	-0.5	0	.07	9.3	s.	46	sw.	7	18	9	3	3.4	5.0	0			
Flagstaff ¹	6,907	36	51	791.1	1,019.6	-3.8	39.0	+1.8	70	4	55	10	21	23	48	823	14	41	-0.08	0	.05	2.0	nw.	17	10	3	3.5	7	0	0					
Phoenix ¹	1,107	39	87	976.0	1,015.2	-0.5	52.2	+5.1	91	4	75	35	22	43	43	189	32	44	-0.7	0	.00	5.3	s.	19	w.	11	20	5	5	3.1	5.0	0			
Tucson ¹	2,555	5	39	926.9	1,014.6	-5.5	58.5	+8.8	89	4	75	32	9	42	45	206	27	32	-0.8	0	.00	0	se.	18	w.	11	23	7	0	3.8	5.0	0			
Yuma	142	9	54	1,010.5	1,014.9	-3.6	62.2	-2.2	92	4	77	41	25	48	37	121	33	38	-0.3	0	.00	0.54	n.	22	w.	11	23	7	0	2.0	5.0	0			
MIDDLE PLATEAU																																			
Reno ¹	4,527	20	52	862.5	1,017.6	-2.0	40.2	+5.5	76	4	55	15	30	26	47	741	27	62	-0.17	0	.08	6.83	nw.	35	se.	6	5	10	15	6.4	6	0			
Tonopah	6,000	9	20	813.4	1,015.6	-3.8	55.8	-1.4	67	4	41	17	5	31	47	756	32	60	-0.13	0	.07	2	nw.	10	8	12	—	2.0	T	0					
Winnemucca ¹	4,339	5	56	868.3	1,018.0	-2.7	38.3	-1	68	4	48	18	21	29	39	801	28	68	-1.26	0	.45	14.86	sw.	33	sw.	5	6	22	7.2	33.6	5.0	0			
Modena	5,473	10	46	864.1	1,016.9	-1.7	37.7	+1.3	66	4	53	8	21	22	43	819	12	41	-0.06	0	.04	2.95	sw.	34	s.	6	14	10	6	4.3	1.7	0			
Salt Lake City ¹	4,227	32	48	867.9	1,018.3	-2.1	70.2	-2	71	5	48	19	21	30	30	774	20	72	-1.30	0	.11	1.59	se.	40	nw.	19	4	9	17	6.8	14.3	2.3			
Gand Junction	4,602	60	68	860.8	1,017.3	-1.3	38.6	-0.7	68	5	51	17	21	26	38	791	22	52	-0.24	0	.18	4.53	se.	26	s.	6	10	9	11	5.3	1.4	0			
NORTHERN PLATEAU																																			
Baker ¹	3,471	36	54	894.3	1,016.6	-4.7	35.6	-0.4	62	4	43	14	8	28	29	883	28	80	0.68	0	.08	6.83	nw.	35	se.	6	5	10	15	6.4	6	0			
Boise ¹	2,739	5	49	920.4	1,017.3	-4.4	39.6	-1	67	4	47	22	22	32	27	762	32	74	-1.51	0	.26	1.51	se.	37	sw.	5	6	22	7.2	33.6	5.0	0			
Pocatello ¹	4,478	5	31	862.9	1,019.0	-1.7	35.2	+1.1	64	4	44	8	22	27	32	894	26	72	-0.3	0	.07	10.18	sw.	31	sw.	8	3	6	21	7.8	3.0	0			
Spokane ¹	1,929	27	42	944.5	1,014.2	-5.1	36.8	-1.7	62	3	43	8	20	30	19	849	31	80	-2.41	0	.36	1.56	sw.	27	sw.	20	1	8	21	8.2	6.2	0			
Walla Walla	991	57	65	979.0	1,014.9	-5.4	43.6	+8.8	71	3	50	21	8	37	20	643	—	23	-0.23	0	.21	6.61	s.	25	se.	14	4	4	22	8.1	.8	0			
Yakima	1,076	58	67	974.6	1,013.9	-38.0	-0.9	67	3	46	20	8	30	28	811	—	17	-0.17	0	.58	9.45	nw.	29	nw.	4	3	7	20	7.8	3.6	0				
NORTH PACIFIC COAST																																			
North Head	211	5	56	1,004.4	1,011.9	-5.7	46.0	-0.2	56	2	50	34	7	42	13	572	42	86	9.59	+2.6	0	1.11	25	27	18.8	s.	61	s.	26	0	6	24	8.5	T	0
Seattle ¹	125	90	321	1,006.1	1,012.5	-4.8	46.2	-2	60	22	50	32	8	42	16	561	39	80	0.77	+1.7	0.98	24	12.2	se.	49	s.	48	2	5	23	8.5	.5	0		
Tacoma	194	172	201	1,005.4	1,012.2	-5.1	45.3	+7	59	2	50	29	8	40	17	590	—	60	-0.70	+4.1	1.49	26	10.3	s.	25	s.	14	2	1	27	8.5	2.2	0		
Tatoosh Island	86	9	61	1,007.1	1,010.2	-4.7	44.3	-1.6	56	22	4																								

SEVERE LOCAL STORMS FOR NOVEMBER 1945

[The table herewith contains such data as has been received concerning severe local storms that occurred during the month. A revised list of tornadoes will appear in the UNITED STATES METEOROLOGICAL YEARBOOK]

Place	Date	Time	Width of path, yards	Loss of life	Value of property destroyed	Character of storm	Remarks
Tennessee, from west of Millington to areas just north of Munford and Brighton.	November 1945 2				\$300,000	Hail and rain.....	Loss in crops, \$200,000; property damage, \$100,000. Storm covered 3-mile area.
Brownsville and Jackson, Tenn.	3					Heavy rain.....	Rainfall of 4.65 inches caused one of the worst flash floods in many years. In Jackson, basements flooded; 2 feet of water reported in the police station at City Hall.
Wyoming, east of the Big Horn Mountain in Sheridan, Johnson, and Campbell Counties.	7					Snowstorm.....	At Recluse and Rockypoint, Wyo., 12 and 10 inches of snow, respectively, reported during storm. Snow also heavy over Bear and Snake River watersheds.
Clinton, Wis., vicinity of Wisconsin, 7 southeastern counties.	8 12	P. m. 5:30-7:30 p. m.			7,500 25,000	High winds..... Thundersqualls.....	2 barns collapsed, killing 5 cattle. Besides interrupting utility service, blowing over several trees, damaging several roofs, and unroofing a few buildings over the area, 1 plane wrecked and 2 others damaged at Milwaukee. Barn collapsed, killing 36 dairy cattle near Lake Geneva; another barn blown down in vicinity of Oshkosh. Maximum wind velocity at Milwaukee, 60 miles from the south at 7:20 p. m. This is the highest wind velocity of record for Milwaukee.
Chicago, Ill., and vicinity.....	13					Wind and rain.....	An 80-mile-an-hour wind, which lasted for about 60 seconds, uprooted dozens of trees, blew over telephone poles, smashed store windows, and damaged power lines. Heaviest destruction reported near Crystal Lake and north of Elgin. In the Crystal Lake area a large barn on the farm of George Gerke collapsed, carrying him 80 feet with part of structure. 14 telephone poles blown down; roof from barn blown off. Several persons injured.
Jefferson, Oswego, and Lewis Counties, N. Y.	23-25					Heavy snowfall.....	At Watertown, N. Y., depth of snow measured 36.5 inches. In cities, hundreds of automobiles snowed under, while on rural highways cars were stalled, abandoned, or buried in snow. Telephone and electric transmission lines broken. Damage of storm not estimated.

LATE STORM REPORTS FOR KANSAS, JUNE 1945

[Reports not included in REVIEW of that month]

Place	Date	Time	Width of path, yards ¹	Loss of life	Value of property destroyed	Character of storm	Remarks
McPherson, Kans., north-east of.	June 1945 1		1 5		\$15,000	Hail.....	Loss in wheat.
Stevens County, Kans., southwestern portion.	2 6 p. m., M. W. T.		1 6		25,000	Heavy hail.....	Chief loss in crops; path 20 miles long.
Jefferson County, Kans., west-central portion.	6 9:30-10:40 p. m.				2,000	Hail.....	Chief loss in crops and gardens.
Ottawa, Kans., vicinity of.	7 Midnight-12:15 a. m.		1 4		20,000	Heavy hail.....	Property damaged, \$15,000; loss in crops and fruit, \$5,000; path 10 miles long.
Overbrook, Kans., 3 miles west.	7 3:30-4 a. m.				1,000	Wind.....	Barn destroyed.
Wabaunsee County, Kans., southeast corner.	7 8:15-9 p. m.		1 6		5,000	Hail.....	Chief damage to buildings. Hailstones size of hen eggs covered 60 percent of ground in places; path 10 miles long.
Savonburg, Kans., vicinity of.	8		1 5		12,000	do.....	Loss in crops spotted; livestock killed and buildings damaged. Some hailstones large enough to penetrate roofs of houses; path 10 miles long.
Topeka, Kans., southwest of.	9 2:30 p. m.			0		Small tornado.....	Cloud apparently did not reach ground, so caused no damage.
Richfield and Rolla, Kans..	9 6:20 p. m., M. W. T.		1 5		200,000	Hail.....	Chief loss in crops; path 30 miles long.
Overbrook, Kans., southwest of.	12 7:13-7:21 p. m.			0		Small tornado.....	Funnel cloud seen suspended about two-fifths of distance from cloud to ground; funnel disappeared without striking ground.
Norton, Kans., and vicinity.	15 11:20-11:45 a. m.				7,500	Hail.....	Chief damage to property.
Valley Falls to Nortonville, Kans., and vicinity.	15 12:15-1:30 p. m.		1 2		12,000	Tornadic winds and hail.....	Hail damage small; length of path, 8 miles.
Leavenworth, Kans.....	15 1:30 p. m.		210		20,000	Wind.....	Damage to buildings and signs; path 1 1/4 miles long.
Hickok, Kans.....	16 P. m.		1 2		7,500	Hail.....	Loss in crops; path 4 1/2 miles long.
Barton County, Kans.....	19 6-8 p. m.		1 4		25,000	Heavy hail.....	Loss in crops; path 5 miles long.
Bushton and Sterling, Kans., and vicinities.	19 7:10 p. m.		1 4		200,000	do.....	Trees, gardens, cars, and composition roofs badly damaged in Sterling; path 20 miles long.
Jewell and Mitchell Counties, Kans.	19 7:30-8 p. m.		2,640		20,000	Hail.....	Damaged area extended along line between the 2 counties; path 8 miles long.
Sananta, Kans., 4 miles north.	20 2:30 p. m., M. W. T.		1 2 1/2		6,000	do.....	Loss in crops; path 4 miles long.
Elk County, Kans.....	20 4:30-5:10 p. m.		do.....		30,000	Heavy hail.....	Chief loss in crops and gardens; path 12 miles long.
Woodson County, Kans.....	20 4:30-5:30 p. m.		do.....		7,500	do.....	Severe to total crop and garden losses in Belmont township. Hailstones up to size of golf balls fell for short time and, in many places, drifted 4 to 5 inches deep; path 8 miles long.
Carlyle, Kans., north-central portion.	20		1 3		7,500	Hail.....	Hail spotted; path 5 miles long.
Rooks County, Kans.....	23 4-6:30 p. m.		1 4		520,000	Heavy hail.....	Principal storm path passed 2 miles west of Stockton, traversed county diagonally to the southeastward. Much crop damage in the northeastern portion of the county. Heavy losses in poultry and game; path 26 miles long.
Graham, Sheridan, and Trego Counties, Kans.	23 6 p. m., M. W. T.		1 10		50,000	do.....	Much crop loss; livestock badly bruised, some killed. Hailstones large as baseballs; path 20 miles long.
St. Peter to Morland, Kans., and vicinities.	23 7 p. m., M. W. T.		1 6		65,000	Wind and heavy rain.....	Loss in crops; property damaged; path 8 miles long.
Ulysses to Hickok and Ryus, Kans., and vicinities.	25 9 p. m., M. W. T.		1 3	0	65,000	Small tornado and hail.....	Loss of 5,000 acres of wheat; damage to buildings from wind, \$15,000, included in estimate; path 6 miles long.
Hugoton, Kans., 2 miles east.	25 11 p. m., M. W. T.		1 1 1/2		22,500	High wind, hail, and rain.....	Chief loss in row crops; path 30 miles long.
Liberal, Kans.....	26 12:55 a. m.		1 3		210,000	Wind and hail.....	Heaviest loss occurred to installations of the Liberal Army Air Field; minor to serious injuries to 70 personnel. 10 buildings destroyed and many others damaged. Wind velocities up to 80 miles per hour reported. Buildings and gardens damaged in Liberal; crops severely damaged in Liberal and in storm path across the southwestern portion of county; path 12 miles long.
Englewood, Kans., vicinity of.	26 2 a. m.		1 2		15,000	Hail.....	Wheat badly damaged in a strip 1 to 3 miles west of Englewood; path 6 miles long.
Russell County, Kans.....	26 6-7 p. m.		1 2		2,000,000	Tornadic wind and hail.....	Loss in crops and property damaged in southern portion of county; 2 persons injured; path 24 miles long.
Ellis County, Kans.....	26 6:30 p. m.		1 5		900,000	Wind and heavy hail.....	Heaviest crop loss in vicinity of Victoria; buildings damaged; path 30 miles long.
Solomon, Kans., vicinity of.	26 6:30-7:30 p. m.		1 4		10,500	Wind and hail.....	Damage from hail, \$1,000; wind damage, \$18,500; path 8 miles long.
Ellsworth, Kans., and vicinity.	26 7:30 p. m.		1 2	0	25,000	Tornado and hail.....	Rural buildings damaged; loss in crops; path 20 miles long.
Brookville and Salina, Kans., and vicinities.	26 8:15-9:30 p. m.		1 4		200,000	Tornadic wind and hail.....	Loss in crops, buildings, power lines, and trees. Damage to hangars and planes at the Smoky Hill Army Air Field; path 22 miles long.
Mitchell County, Kans.....	26 10:30 p. m.		1 3		15,000	Heavy hail.....	Spotted hail losses occurred in damaged area, which extended from west to east through the center of the county; path 17 miles long.
Thomas County, Kans.....	30 2 a. m., M. W. T.		1 12		1,000,000	do.....	Severe crop loss extending across the county from northwest to southeast; path 30 miles long.
Oberlin, Kans., and vicinity.	30 2-3 a. m.		1 6		1,500,000	do.....	Heaviest loss in crops which, in many places, were completely destroyed. Drifts of hailstones in draws still evident 48 hours after storm; path 24 miles long.
Graham County, Kans.....	30 3-4 a. m.		1 18		20,000	High winds and heavy hail.....	Crop loss in scattered areas, \$15,000; wind damage, \$5,000; path 30 miles long.
Pottawatomie County, Kans.	30 5:15 a. m.		880		2,000	Hail.....	Loss in crops; path 3 miles long.
Lincoln, Kans.....	30 6 a. m.		1 3		100,000	Heavy hail.....	Crop loss ranged to complete destruction, with extensive building damage; path 7 miles long.
Butler and Cowley Counties, Kans.	30 3:30-5 p. m.			0	110,000	Tornadoes.....	Several tornadoes appeared to originate in vicinity of Douglas, in southwestern Butler County, and moved southeastward near Rock and Atlanta, in Cowley County. Principal damage to rural buildings as well as crops in area where funnel reached ground. 8 funnel clouds reported; path 25 miles long.
Fort Scott, Kans.....	30 6:30-7:30 p. m.		1 15		12,500	High wind.....	123 trees damaged, 27 uprooted; street lights damaged; loss in crops; path 25 miles long.

¹ Miles instead of yards.

SOLAR RADIATION AND SUNSPOT DATA FOR NOVEMBER 1945

[Solar Radiation Investigation Section, I. F. Hand, in charge]

SOLAR RADIATION OBSERVATIONS

Explanations of the tables and references to descriptions of instruments, stations, and methods of observation, and to summaries of data, are given in the January 1944, **MONTHLY WEATHER REVIEW**, page 43. A list of the pyrheliometric stations is given on page 45 of the same **REVIEW**.

TABLE 1.—*Solar radiation intensities during November 1945*
 [GRAM CALORIES PER MINUTE PER SQUARE CENTIMETER OF
 NORMAL SURFACE]

Date	Sun's zenith distance										
	7:30 a. m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	1:30 p. m.
	75th mer. time	Air mass									75th mer. time
		A. M.					*1.0		P. M.		
	e.	5.0	4.0	3.0	2.0		2.0	3.0	4.0	5.0	e.
MADISON, WIS.											
Nov. 2	mb.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	mb.
Nov. 3	6.9	—	0.92	1.04	—	—	—	—	—	—	5.
Nov. 9	3.8	—	—	1.07	—	—	—	—	—	—	3.
Nov. 10	3.5	—	—	—	1.34	—	—	—	—	—	3.
Nov. 15	2.9	0.81	.96	1.11	—	1.55	—	—	—	—	3.
Means	3.3	.79	.96	1.10	—	1.53	—	—	—	—	4.
Departures	—	(.80)	.94	1.08	(1.34)	(1.54)	—	—	—	—	—
	—	—.07	—.05	—.06	+.03	+.02	—	—	—	—	—

LINCOLN, NEBR.

Nov. 1	7.4	—	1.09	1.31	1.50	1.32	1.14	0.99	0.90	8.
Nov. 3	3.0	.01	1.09	1.22	1.36	—	—	—	—	3.
Nov. 5	6.4	.94	1.03	1.16	1.34	—	—	1.14	1.03	.92
Nov. 8	5.6	—	—	—	—	—	—	1.16	1.05	.92
Nov. 9	2.2	.92	1.01	1.14	—	—	1.31	—	—	2.
Nov. 13	4.0	—	—	—	—	—	1.31	—	—	5.
Nov. 14	3.0	.68	.81	1.03	1.29	—	1.29	1.14	.98	.88
Nov. 15	5.1	.64	.77	.94	1.20	—	—	—	—	5.
Nov. 16	5.8	.88	1.01	1.14	1.30	—	1.30	—	—	5.
Nov. 19	3.3	.83	1.03	1.20	—	—	—	—	—	4.
Nov. 21	2.3	—	—	1.02	1.18	—	—	1.18	1.00	.92
Nov. 23	2.1	.98	1.11	1.20	—	—	—	—	—	2.
Nov. 27	4.2	1.01	1.14	1.27	—	—	—	—	—	4.
Nov. 29	3.0	—	.28	.59	—	—	—	1.05	.92	5.
Means	—	.88	.94	1.10	1.30	(1.50)	1.31	1.14	.98	.91
Departures	—	.01	-.07	-.06	-.06	-.06	-.03	-.03	-.05	-.01

ALBUQUERQUE, N. MEX.

Nov. 1	3.8	—	1.09	1.20	—	—	—	—	3.3
Nov. 2	2.4	1.06	1.15	—	—	—	1.21	—	1.01
Nov. 3	3.6	.92	1.07	1.20	—	1.32	1.22	1.10	2.1
Nov. 4	4.0	—	1.12	1.24	1.37	—	—	—	4.2
Nov. 5	4.2	—	1.09	1.20	1.34	—	—	—	3.0
Nov. 6	3.3	—	—	—	—	1.35	1.18	—	3.8
Nov. 8	3.4	—	—	1.32	1.43	—	1.43	—	4.2
Nov. 9	2.1	1.10	1.19	1.30	1.44	—	1.34	1.25	2.1
Nov. 10	1.3	1.05	1.14	1.25	1.36	—	—	—	2.5
Nov. 11	2.2	—	—	—	—	1.07	—	—	1.0

TABLE 1.—*Solar radiation intensities during November 1945—Con.*

Date	Sun's zenith distance										
	7:30 a. m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	1:30 p. m.
	75th mer. time	Air mass									75th mer. time
		A. M.				*1.0	P. M.				
	e.	5.0	4.0	3.0	2.0		2.0	3.0	4.0	5.0	e.

ALBUQUERQUE, N. MEX.—Continued

Nov. 12	2.5	1.01	1.14	1.27			1.38			2.5
Nov. 13	3.8		1.11	1.24			1.38	1.27	1.15	1.10
Nov. 14	2.4	1.10	1.18	1.28	1.42			1.24		2.4
Nov. 16	2.5		1.07	1.21			1.35	1.22	1.11	1.03
Nov. 17	2.3	.98	1.10	1.22	1.38			1.29	1.22	1.16
Nov. 18	2.1		1.14	1.24			1.41	1.30	1.19	1.06
Nov. 19	1.6							1.24	1.12	1.01
Nov. 20	2.3	.62	.75	1.00	1.37					4.6
Nov. 21	1.1	1.13	1.20	1.28	1.44		1.34	1.26	1.16	
Nov. 22	0.6	1.02	1.15				1.42	1.24	1.18	1.14
Nov. 23	1.1		1.19	1.28	1.43			1.27	1.16	1.10
Nov. 24	1.1	.90	1.04	1.21	1.39		1.40			2.1
Nov. 25	1.4	1.05	1.15					1.22	1.16	1.07
Nov. 27	2.4			1.27	1.35					2.6
Nov. 28	3.0		1.01	1.30			1.30	1.18	1.08	.96
Nov. 29	2.3	.98	1.12	1.22	1.44					3.0
Nov. 30	3.0							1.18	1.05	.96
Means		.99	1.10	1.24	1.40		1.35	1.24	1.13	1.06
Departures		-.01	-.01	+.02	+.03		-.02	+.01	+.02	+.06

BLUE HILL, MASS.

Nov. 1	5.5	0.97	1.06	1.15	1.30		1.31			4.0
Nov. 3	14.8						1.03			15.3
Nov. 5	5.2							1.16	0.96	0.85
Nov. 6	4.3	.78	.90	1.07	1.25		1.25	1.07	.91	.79
Nov. 8	13.4				.90					12.3
Nov. 15	6.4							1.26	1.13	1.05
Nov. 16	4.4							1.19	1.09	.99
Nov. 19	5.8	.90	1.01	1.14						6.9
Nov. 21	5.3	.95	1.08	1.17	1.32					5.1
Nov. 23	4.5	.71								.64
Nov. 24	3.4						1.17	.99	.88	.77
Nov. 25	4.0						1.17	.83	.62	.49
Nov. 26	4.1							.87	.77	.60
Nov. 27	3.2	.96	1.07							.54
Means		.88	1.02	1.09	1.29		1.19	1.05	.91	.78
Departures		-.03	+.01	-.04	+.02		-.06	-.05	-.05	-.05

BOSTON, MASS.

BOSTON, MASS.									
Nov. 1	5.1			0.90	1.15				4.4
Nov. 6	4.6			.86					6.6
Nov. 27	3.7	0.60	0.44	.60			0.60	0.70	0.63
Means	(0.69)	(0.44)	(0.75)	(1.00)			(0.60)	(0.70)	(0.63)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

RATIO, BOSTON/BLUE HILL, ON COMPARABLE DATES

[†] Extrapolated.

TABLE 2.—*Daily totals and weekly means of solar radiation (direct + diffuse) received on a horizontal surface*
 [Gram calories per square centimeter]

Date	Washington, D. C.	Madison, Wis.	Lincoln, Nehr.	East Lansing, Mich.	New York, N. Y.	Fresno, Calif.	Fairbanks, Alaska	Columbia, Mo.	Boston, Mass.	Nashville, Tenn.	Twin Falls, Idaho	La Jolla, Calif.	Riverside, Calif.	Blue Hill, Mass.	Newport, R. I.	State College, Pa.	Put-in-Bay, Ohio	Wareham, Mass.	Davis, Calif.	Tooele, Utah	New Orleans, La.	Toronto, Canada
1945	Cal.	Cal.	Cal.	Cal.	Cal.	Cal.	Cal.	Cal.	Cal.	Cal.	Cal.	Cal.	Cal.	Cal.	Cal.	Cal.	Cal.	Cal.	Cal.	Cal.	Cal.	Cal.
Oct. 29	333	288	288	184	146	35	217	173	318	141	244	112	194	213	306	311	301	394	301	394	324	226
Oct. 30	286	177	149	205	242	326	43	247	217	274	152	152	139	233	266	271	286	253	251	384	259	259
Oct. 31	317	275	165	258	230	61	262	218	262	72	376	305	243	260	87	365	394	353	382	247	387	200
Nov. 1	276	39	308	94	279	210	111	108	256	300	185	367	363	317	306	315	152	410	318	387	200	167
Nov. 2	210	231	107	244	90	347	40	310	159	25	155	360	376	199	160	66	269	256	411	340	346	167
Nov. 3	154	176	310	162	89	343	32	352	187	357	260	347	377	208	234	80	232	254	406	328	204	134
Nov. 4	137	167	296	107	40	332	120	325	3	286	270	350	372	9	14	217	218	33	380	373	430	178
Means...	244	186	232	179	162	269	62	273	173	260	176	315	296	200	206	192	262	334	324	362	202	202
Departures...	-2	+1	-2	+26	-48	-54	+15	+15	+9	+42	-33	-29	-12	-18	-21	+13	+68	+25	+31	+45	-----	-----
Nov. 5	295	260	289	223	286	9	308	180	326	259	170	211	208	212	206	287	165	363	362	418	97	97
Nov. 6	295	167	244	191	120	147	20	287	232	196	103	98	141	287	263	259	273	282	309	223	157	157
Nov. 7	273	136	112	33	171	336	18	228	156	136	146	357	394	182	222	277	126	239	400	226	297	94
Nov. 8	280	45	154	83	201	274	33	36	212	266	238	314	379	246	258	183	206	370	347	321	63	63
Nov. 9	258	261	271	75	118	324	19	327	155	20	106	335	384	158	192	137	52	126	360	320	28	28
Nov. 10	47	267	236	171	32	242	23	297	34	22	57	320	339	37	73	58	112	63	252	258	365	124
Nov. 11	38	89	16	117	13	333	42	66	38	53	157	308	274	50	59	22	81	49	356	157	322	48
Means...	212	178	189	128	134	280	23	226	144	146	152	272	303	167	183	163	162	167	311	276	325	87
Departures...	-9	+16	-37	+13	-49	-11	-14	+24	+9	-54	-54	-40	+7	-17	-16	+4	+7	-6	+45	+26	+18	-----
Nov. 12	67	26	148	59	25	188	41	110	45	218	111	325	344	53	38	161	137	63	100	129	276	56
Nov. 13	106	130	254	24	83	251	38	244	53	16	196	326	344	52	72	147	107	60	376	319	51	51
Nov. 14	91	254	254	86	34	194	65	268	27	177	228	312	349	27	21	41	80	20	163	338	377	93
Nov. 15	293	255	224	178	249	163	68	301	161	300	87	203	260	177	195	209	278	184	212	169	389	174
Nov. 16	296	191	242	102	223	64	111	191	277	101	320	331	163	129	255	177	125	105	243	309	94	94
Nov. 17	280	47	241	14	162	287	46	259	76	89	149	304	257	128	148	64	30	186	317	216	321	3
Nov. 18	264	97	213	174	89	288	44	273	60	254	185	321	336	61	125	107	247	72	317	315	310	136
Means...	200	143	225	91	124	228	52	224	88	192	150	302	317	94	104	153	151	100	227	251	329	87
Departures...	-1	-10	+16	-8	-25	-20	+24	+48	-24	-4	-14	+9	+41	-63	-76	+4	+20	-66	-11	+5	+65	-----
Nov. 19	30	216	260	21	49	204	50	270	138	161	92	324	338	164	130	26	125	156	237	90	218	22
Nov. 20	281	102	112	157	279	86	26	164	67	274	203	309	328	80	258	194	154	158	342	336	180	114
Nov. 21	225	15	270	22	169	130	44	193	160	20	225	307	331	235	229	166	30	232	228	356	216	49
Nov. 22	278	147	223	64	169	223	4	223	23	271	248	320	325	25	29	169	55	26	226	341	403	42
Nov. 23	174	198	250	147	180	203	11	285	156	87	182	266	307	187	187	109	100	200	178	229	389	96
Nov. 24	215	224	242	104	177	106	(T)	272	182	272	124	297	296	214	189	74	138	208	68	136	338	53
Nov. 25	181	37	209	38	167	204	4	253	167	230	116	268	271	188	182	100	47	186	238	289	265	65
Means...	198	134	224	80	170	186	20	238	129	188	174	299	314	156	172	120	93	106	218	254	293	63
Departures...	+14	+3	+28	+33	+28	-50	+3	+80	+24	+12	+15	+3	+34	+7	+12	-14	-23	-14	-3	+15	+22	-----
Nov. 26	231	125	132	115	192	174	6	166	175	226	115	243	289	202	190	250	230	265	276	265	48	48
Nov. 27	193	19	238	12	158	176	10	201	131	176	95	294	303	190	235	185	56	267	206	233	190	97
Nov. 28	33	28	136	34	24	140	(T)	219	60	52	66	244	290	89	109	13	37	114	69	229	324	2
Nov. 29	30	33	205	16	6	200	1	106	17	30	60	120	150	23	18	63	37	22	303	70	335	36
Nov. 30	110	34	93	21	78	81	5	112	36	60	142	258	269	28	33	60	29	-----	326	64	342	117
Dec. 1	223	55	40	159	134	162	20	-----	69	190	204	108	161	76	108	214	183	203	265	342	145	145
Dec. 2	259	18	16	14	208	140	1	-----	152	80	195	290	301	176	91	190	56	-----	222	328	318	57
Means...	154	45	123	53	114	153	6	-----	92	116	125	222	255	113	112	130	90	-----	240	214	302	72
Departures...	-11	-78	-55	-28	-14	-53	-6	-----	-10	-21	-21	-48	+1	-37	-45	+15	-15	-15	+37	-21	+66	-----

ACCUMULATED DEPARTURES ON DECEMBER 2, 1945

+2,170 +11,515 -7,133 -4,844 -10,458 -1,813 -3,472 ----- -3,003 -1,337 -9,961 -17,304 +6,055 -8,435 -11,200 +3,262 -28 ----- +21 -----

T=Trace of solar radiation.

NOTE.—Beginning with the September issue, values of total solar and sky radiation received on a horizontal surface at Toronto, Canada, have been included in table 2. The coordinates of the station are as follows: Latitude 42°49' N; Longitude 79°24' W; and elevation (pyrheliometer), 20 meters above the ground. The pyrheliometer is mounted on the tower of the observatory occupied by the Meteorological Division of Transport. The exposure is ideal, with negligible shading by buildings a considerable distance away. Located slightly more than a mile north of the main business section, data from this station represent average conditions for the more urban residential areas of Toronto.

ADDITIONAL DATA FOR FAIRBANKS, ALASKA, OCTOBER 1945

Date	Mean	Departure
Oct. 1-7	107	-5
Oct. 8-14	74	-17
Oct. 15-21	78	+7
Oct. 22-28	74	+14

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR NOVEMBER 1945

By Lucy T. Day

[Equatorial Division, U. S. Naval Observatory]

[Communicated by Commodore J. F. Heliweg, U. S. N. (Ret.) Superintendent, U. S. Naval Observatory.] All measurements and spot counts were made at the Naval Observatory from plates taken at the observatories indicated. Difference in longitude is measured from the central meridian, positive toward the west. Latitude is positive toward the north. Areas are corrected for foreshortening and expressed in millionths of Sun's hemisphere. For each day, under longitude, latitude, area of spots or group, and spot count are included assumed longitude of center of the disk, assumed latitude of center of the disk, total areas of spots and groups, and total spot count.

Date	Eastern standard time	Mount Wilson group No.	Heliographic				Area of spot or group	Spot count	Plate quality	Observatory	Nov. 10	15	50	7883	-68	294	-23	71	73	1	G	Mt. Wilson.
			Difference in longitude	Longitude	Latitude	Distance from center of disk					11	11	3	7885	-79	272	-20	80	97	1	F	Do.
1945 Nov. 1	h m s 11 34	7877	o	o	o	o	F	U. S. Naval.	1	1	11	11	3	7883	-68	294	-23	71	73	1	F	Do.
			-65	58	-22	68								7882	-60	302	-22	64	97	1		
			-10	113	-19	26								7877	+57	59	-21	61	48	1		
			-3	120	-16	20											(2)	(+3)	218	3		
			-1	122	-16	20																
			+13	136	-25	31																
			+16	139	+21	23																
			+21	144	+22	27																
			+60	183	-42	71																
			+70	193	-39	77																
2	10 12	7877	+73	196	+19	73	P.	Do.	1	1	12	10	39	7885	-66	272	-19	68	97	1	F	Do.
			+79	202	-39	84																
			+82	205	+18	82																
3	12 52	7877	-37	58	-22	45	P.	Do.	1	1	14	14	8	7888	-73	250	-25	77	48	2	P	Do.
			+24	119	-15	30																
			+26	121	-16	32																
			+40	135	-24	47																
			+43	138	+22	45																
			(*) +55	150	+25	58																
4	10 58	7878	-64	19	+11	64	G	Mt. Wilson.	1	1	15	11	21	7888	-68	243	-25	70	48	2	G	Do.
			-26	57	-21	35																
			-24	59	-21	34																
			+28	121	-14	42																
			+40	123	-14	43																
			+53	136	-23	59																
			+54	137	+22	56																
5	11 34	7878	-52	18	+12	53	F	U. S. Naval.	1	1	15	12	1	7888	-52	246	-24	57	36	1	G	Do.
			-46	24	-26	53																
			-12	58	-22	28																
			-11	59	-21	28																
			+52	122	-15	55																
			+65	135	-24	70																
6	13 30	7879	-36	20	-26	44	F	Do.	1	1	16	11	24	7888	-40	245	-24	47	12	1	F	Do.
			-33	23	-26	43																
			(*) -23	33	-13	27																
			+1	57	-21	25																
			+3	59	-22	25																
			+66	122	-15	68																
			+80	136	-24	80																
7	13 16	7879	-19	24	-26	35	P.	Do.	2	1	17	11	24	7888	-39	246	-29	45	6	1	G	Do.
			+16	59	-22	30																
			+17	60	-15	26																

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR NOVEMBER 1945—Continued

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR NOVEMBER 1945—Continued

Date	Eastern standard time	Mount Wilson group No.	Heliographic					Observatory	Date	Eastern standard time	Mount Wilson group No.	Heliographic					Observatory		
			Difference in longitude	Longitude	Latitude	Distance from center of disk	Area of spot or group					Difference in longitude	Longitude	Latitude	Distance from center of disk	Area of spot or group			
1945 Nov. 18	A 10 49	7888	0	242	-26	32	12	2	U. S. Naval.	1945 Nov. 24	A 10 47	7900	-52	128	-22	56	24	U. S. Naval.	
		7888	-10	240	-23	27	97	6				7897	-13	167	-30	33	48		
		7888	-10	249	-26	29	12	2				7898	+12	192	+29	30	104		
		7888	-6	253	-25	27	12	2				7898	+17	197	+30	32	73		
		7885	+12	271	-20	25	24	3				7898	+18	198	+28	32	48		
		7891	+29	288	-25	38	48	2				7896	+27	207	+31	38	145		
		7892	+40	290	-22	45	73	9				7896	+30	210	+30	39	73		
		7892	+60	319	+20	61	24	1				7901	+30	210	+20	34	48		
				(256)	(+2)		302	27				7901	+34	214	+19	37	12		
														(180)	(+2)	665	34		
19	12 3	7894	-75	170	-39	78	97	1	Mt. Wilson	25	11 4	7897	0	166	-30	32	24	Do.	
		7893	-52	193	-39	62	12	1				7898	+27	193	+29	37	145		
		7899	+1	246	+31	29	6	2				7898	+32	198	+28	40	121		
		7888	+1	246	-30	32	24	4				7896	+39	205	+29	45	48		
		7888	+5	250	-28	30	24	5				7896	+45	211	+29	50	97		
		7888	+9	254	-27	30	12	5				7901	+47	213	+19	50	24		
		7885	+26	271	-21	35	24	2						(106)	(+2)	450	31		
		7891	+44	289	-25	50	24	4											
		7882	+60	305	-23	63	6	2											
		7892	+78	323	+24	79	6	1											
20	11 54		(245)	(+2)			235	27											
		7894	-55	170	-38	65	24	1	U. S. Naval.	26	12 0	7903	+7	160	+0	11	97	Do.	
		7893	-38	194	-37	52	12	1				7897	+15	168	-31	35	5		
		7888	+13	245	-27	33	24	3				7898	+39	192	+29	45	73		
		7888	+15	247	-28	34	24	2				7898	+46	199	+27	51	121		
		7895	+17	249	+15	21	24	4				7896	+50	203	+29	55	48		
		7891	+52	284	-23	56	24	2				7896	+58	211	+29	60	121		
		7891	+55	287	-22	59	97	2				7901	+60	213	+18	61	24		
		7891	+57	289	-24	61	145	6						(153)	(+1)	490	34		
			(232)	(+2)			374	21											
21	11 20	7897	-54	165	-32	61	24	1	F	Do.	27	11 28	7904	-73	67	-15	75	48	Do.
		7894	-43	176	-38	56	12	1				7906	-41	99	-29	49	6		
		7896	-14	205	+28	30	48	2				7903	+18	158	+18	24	6		
		7896	-13	206	+30	32	36	1				7903	+21	161	+9	22	121		
		7891	+66	285	-24	60	242	5				7905	+31	171	-39	49	12		
		7891	+70	289	-23	73	97	2				7896	+50	190	+29	55	73		
		7891	+70	289	-25	74	194	2				7896	+59	199	+28	61	158		
			(219)	(+2)			653	14				7896	+70	210	+30	72	145		
														(140)	(+1)	560	30		
22	10 15	7900	-80	126	-21	80	12	1	F	Do.	28	11 16	7904	-61	66	-14	63	48	Do.
		7907	-46	160	-31	55	48	2				7904	-57	70	-14	58	24		
		7907	-42	164	-32	51	61	2				7906	-25	102	-26	38	24		
		7906	-14	205	+28	30	48	2				7903	+33	160	+10	34	24		
		7906	-13	206	+30	32	36	1				7903	+37	164	+10	38	73		
		7891	+66	285	-24	60	242	5				7905	+45	172	-38	56	36		
		7896	-10	205	+28	26	24	3				7898	+68	195	+30	70	48		
		7896	0	206	+30	28	24	1				7898	+71	198	+27	73	145		
		7896	+1	207	+29	27	24	2				7896	+86	213	+30	86	121		
		7891	+78	284	-24	70	218	4						(127)	(+1)	555	57		
23	10 56	7901	+84	290	-24	84	242	4	P	Do.	30	11 33	7904	-33	67	-14	36	145	Do.
			(306)	(+2)			665	26				7904	-29	71	-14	32	194		
		7902	-80	113	-22	80	6	1				7903	+60	160	+10	60	6		
		7900	-66	127	-23	69	12	1				7907	+60	160	+27	62	48		
		7907	-34	159	-32	46	36	1				7907	+67	167	+28	69	109		
		7907	-28	165	-32	42	73	2						(100)	(+1)	502	18		
		7908	+1	194	+26	26	61	6											
		7908	+4	197	+27	25	73	1											
		7906	+12	205	+28	29	12	1											
		7906	+15	206	+29	31	24	1											
		7901	+16	209	+19	24	24	3											
		7901	+19	212	+18	25	48	3											
			(193)	(+2)			369	20											

Mean daily area for 29 days = 457

*Not numbered.
VG=very good; G=good; F=fair; P=poor.

Chart I. Departure ($^{\circ}$ F.) of the Mean Temperature from the Normal, and Wind Roses for Selected Stations, November 1945

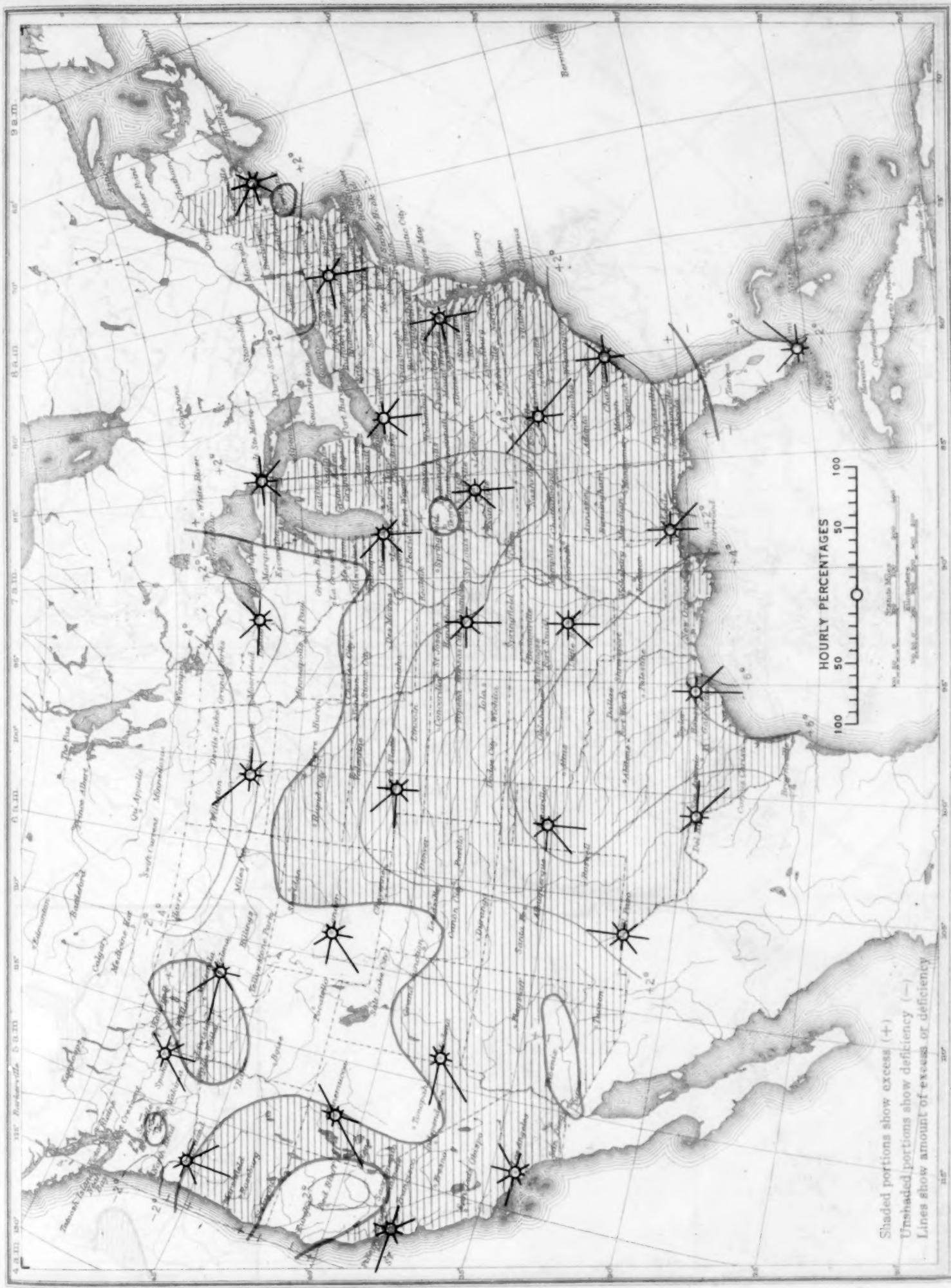
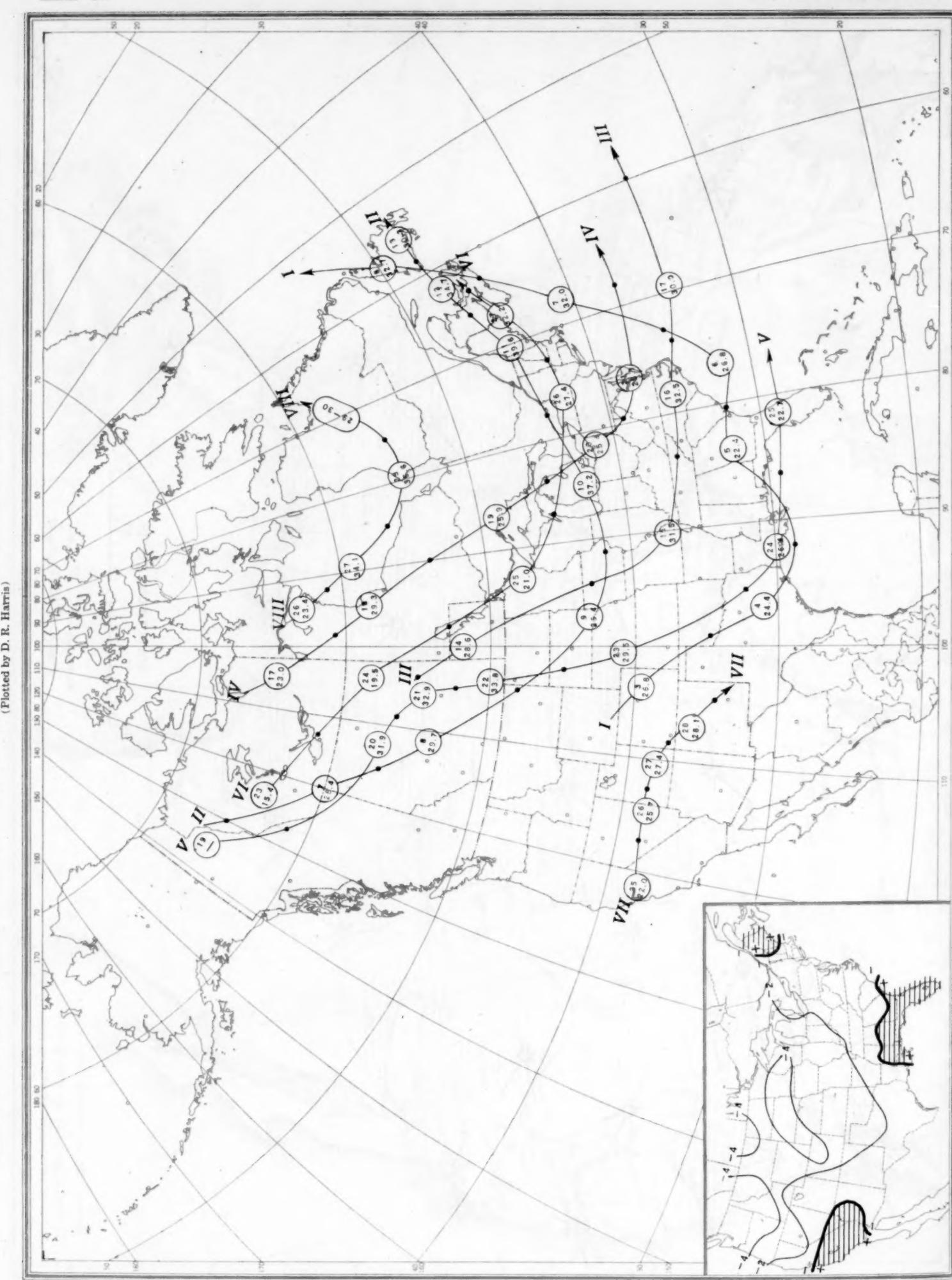


Chart II. Tracks of Centers of Anticyclones, November 1945. (Inset) Departure of Monthly Mean Pressure from Normal



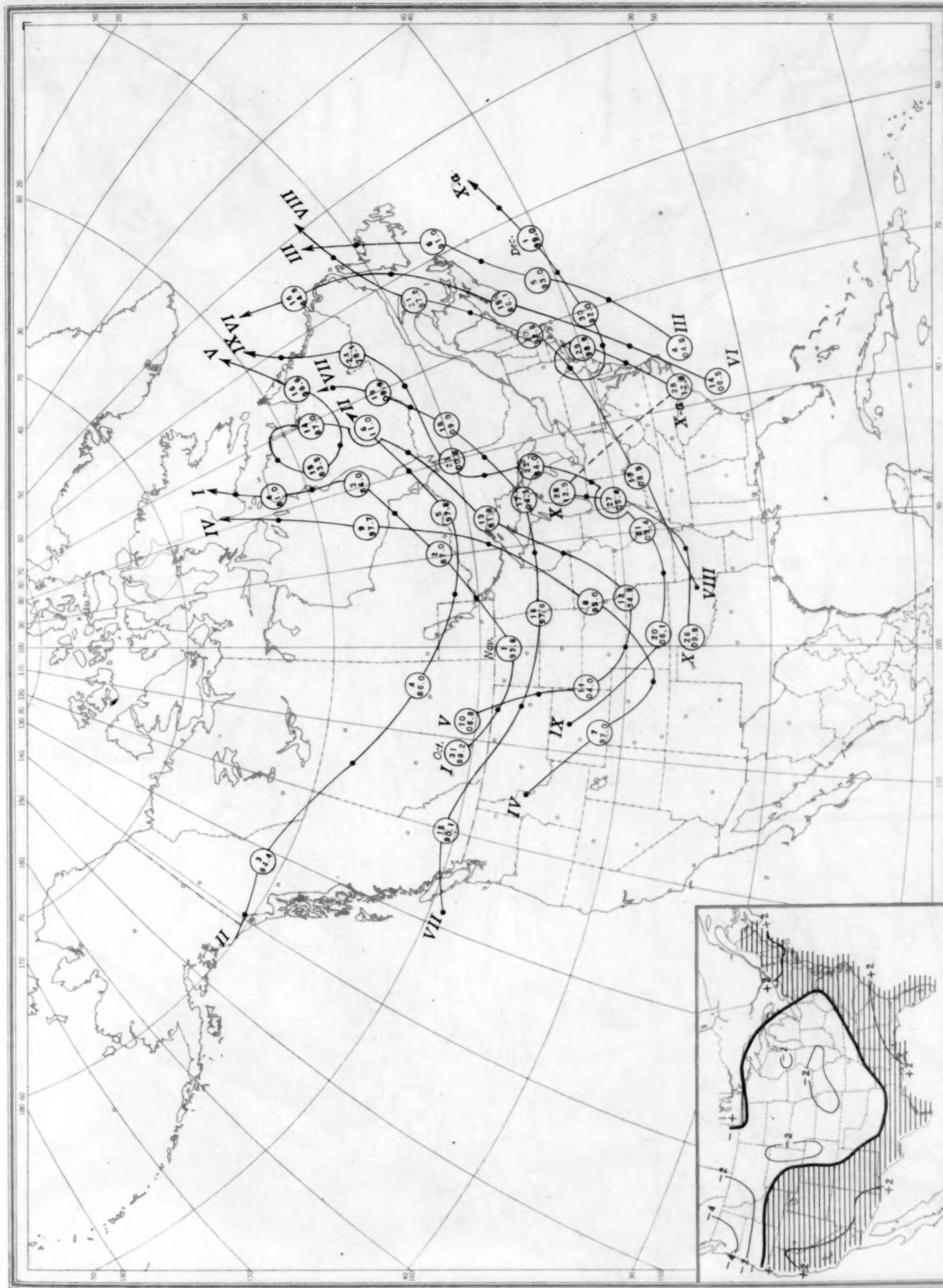
Circle indicates position of anticyclone at 7:30 a. m. (75th meridian time), with barometric reading. Dot indicates position of anticyclone at 7:30 p. m. (76th meridian time)

Chart III. Tracks of Centers of Cyclones, November 1945. (Inset) Change in Mean Pressure from Preceding Month

Circle indicates position of anticyclone at 7:30 a. m. (75th meridian time), with barometric reading. Dot indicates position of cyclone at 7:30 p. m. (75th meridian time)

Chart III. Tracks of Centers of Cyclones, November 1945. (Inset) Change in Mean Pressure from Preceding Month

(Plotted by D. R. Harris)



Circle indicates position of cyclone at 7:30 a. m. (75th meridian time), with barometric reading. Dot indicates position of cyclone at 7:30 p. m. (75th meridian time)

Chart IV. Percentage of Clear Sky Between Sunrise and Sunset, November 1945

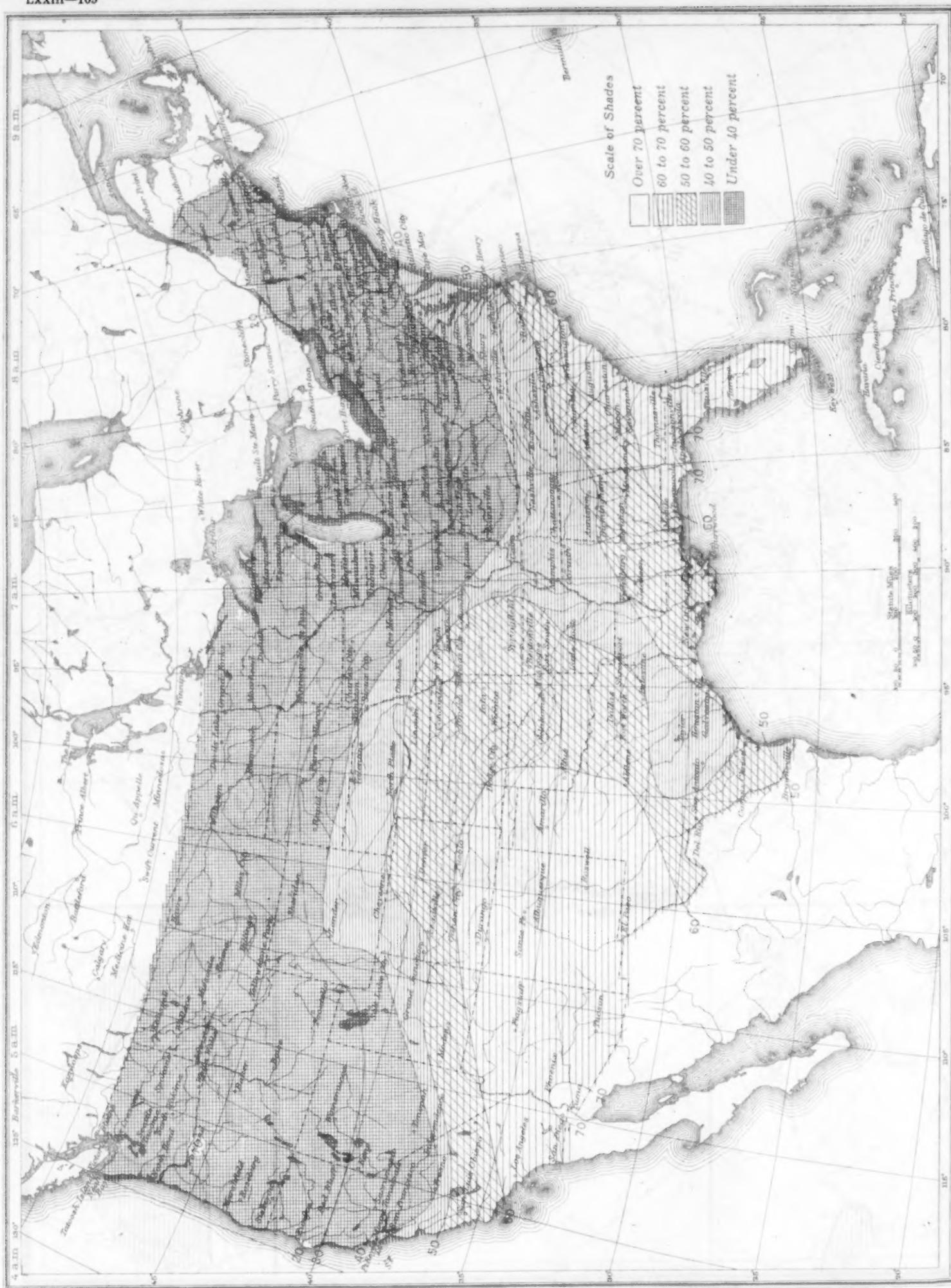


Chart V. Total Precipitation Inches November 1945 (Inset) Departure of Precipitation from Normal

Chart V. Total Precipitation, Inches, November 1945. (Inset) Departure of Precipitation from Normal

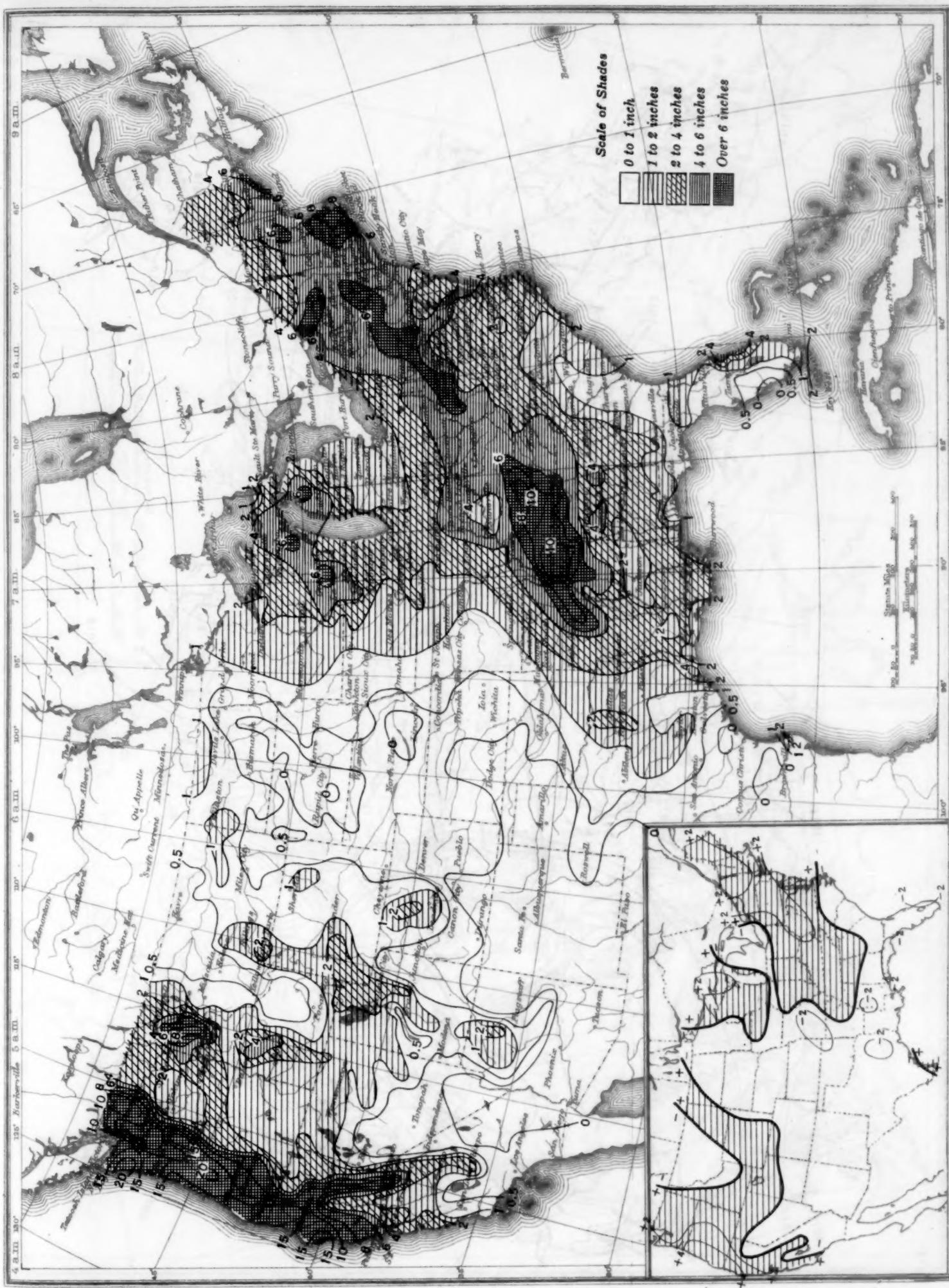


Chart VI. Isobars (mb), at Sea Level and Isotherms ($^{\circ}$ F.) at Surface; Prevailing Winds, November 1945

Chart VII. Total Snowfall, Inches, November 1945.

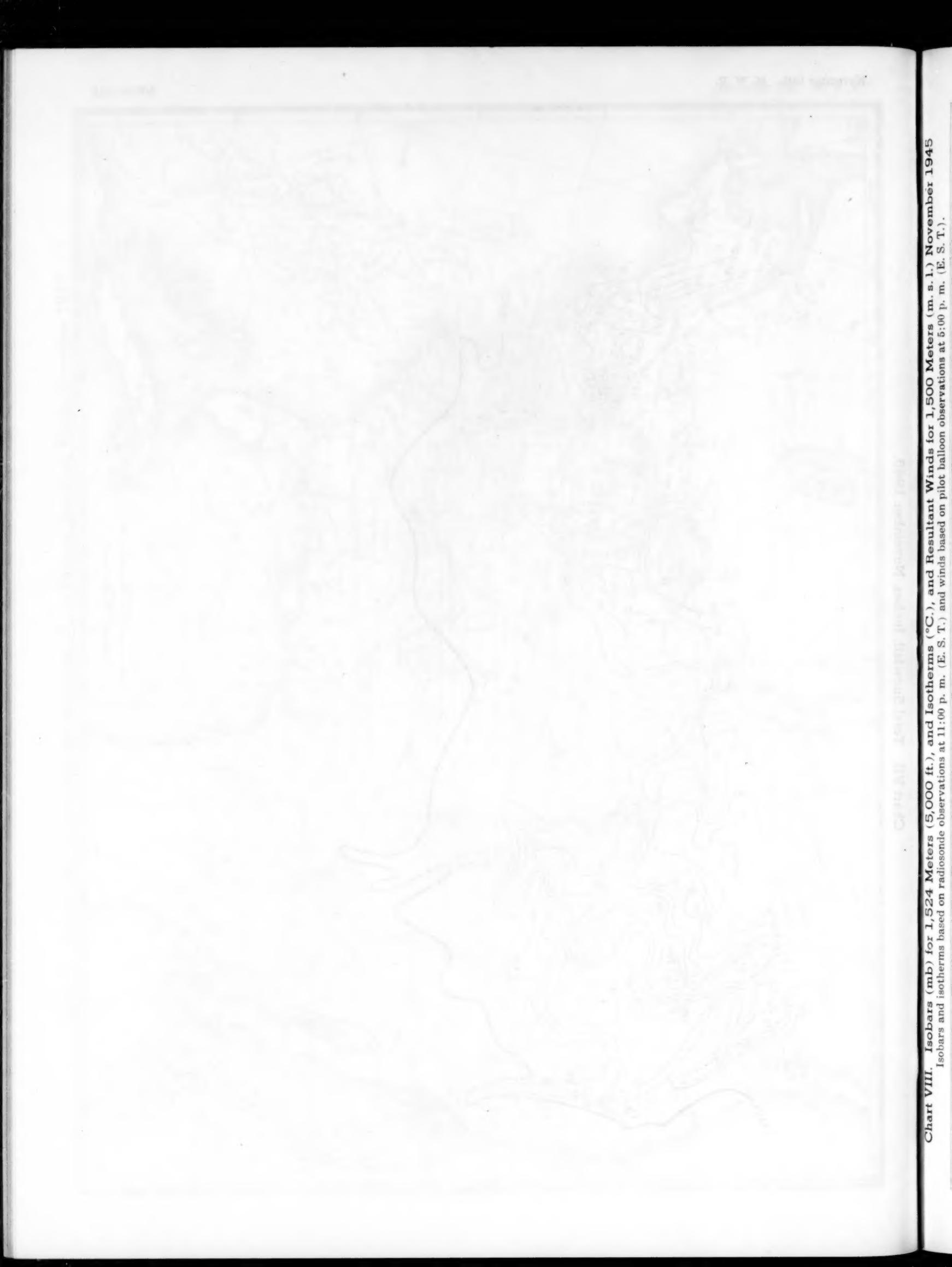


Chart VIII. Isobars (mb) for 1,524 Meters (5,000 ft.), and Isotherms ($^{\circ}$ C.), and Resultant Winds for 1,500 Meters (m. s. l.) November 1945
 Isobars and isotherms based on radiosonde observations at 11:00 p. m. (E. S. T.) and winds based on pilot balloon observations at 5:00 p. m. (E. S. T.).

Chart VIII. Isobars (mb.) for 1,524 Meters (5,000 ft.), and Resultant Winds for 1,500 Meters (m.s.) November 1945

isobars and isotherms based on radiosonde observations at 11:00 p. m. (E. S. T.) and winds based on pilot balloon observations at 6:00 p. m. (E. S. T.).

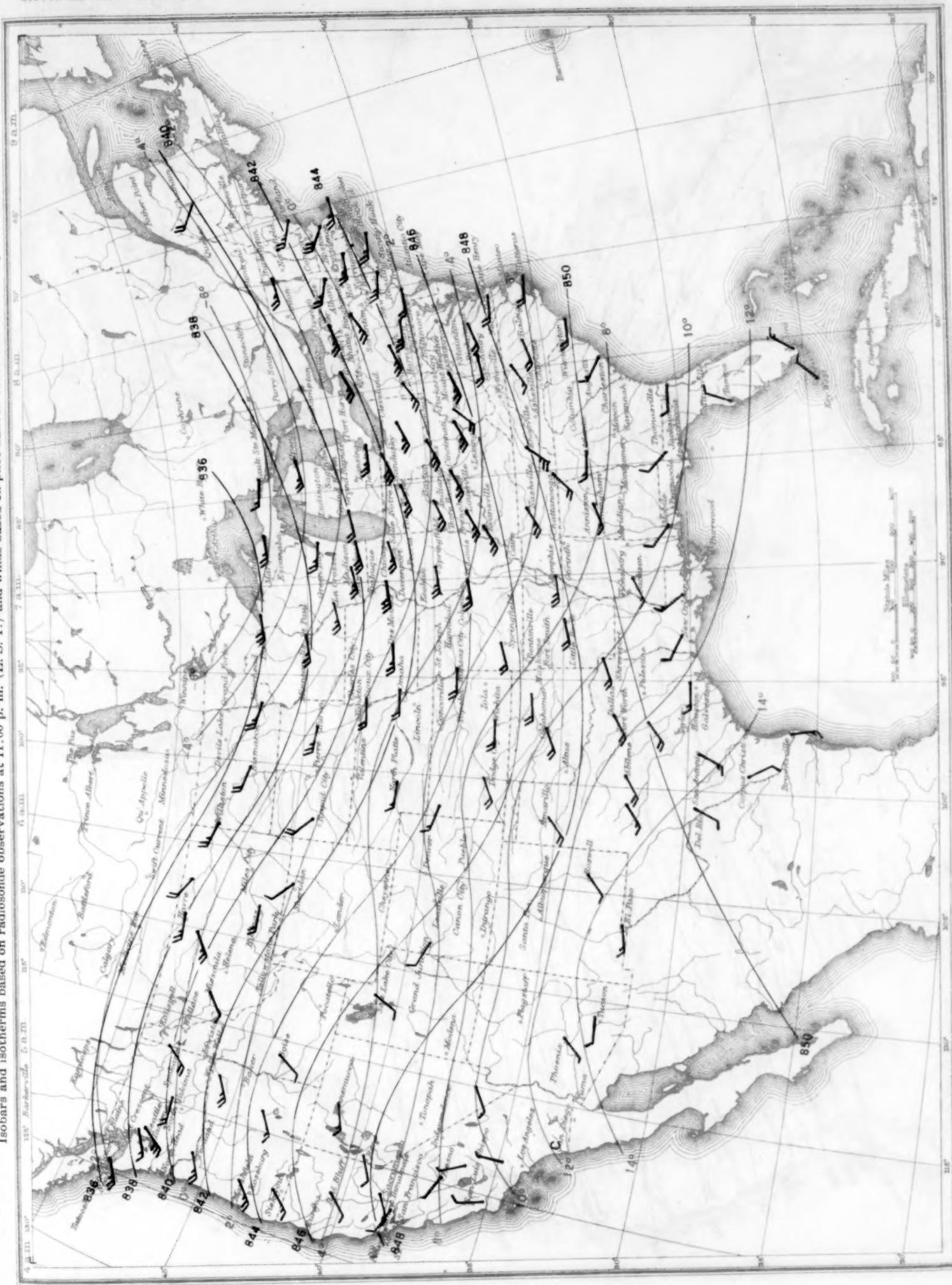


Chart IX. Isobars (mb), Isotherms (°C), and Resultant Winds for 3,000 Meters (m. s. l.) November 1945
 Isobars and isotherms based on radiosonde observations at 11:00 p. m. (E. S. T.) and winds based on pilot balloon observations at 5:00 p. m. (E. S. T.).

Isobars and isotherms based on radiosonde observations at 11:00 p. m. (E. S. T.) and winds based on pilot balloon observations at 6:00 p. m. (E. S. T.)

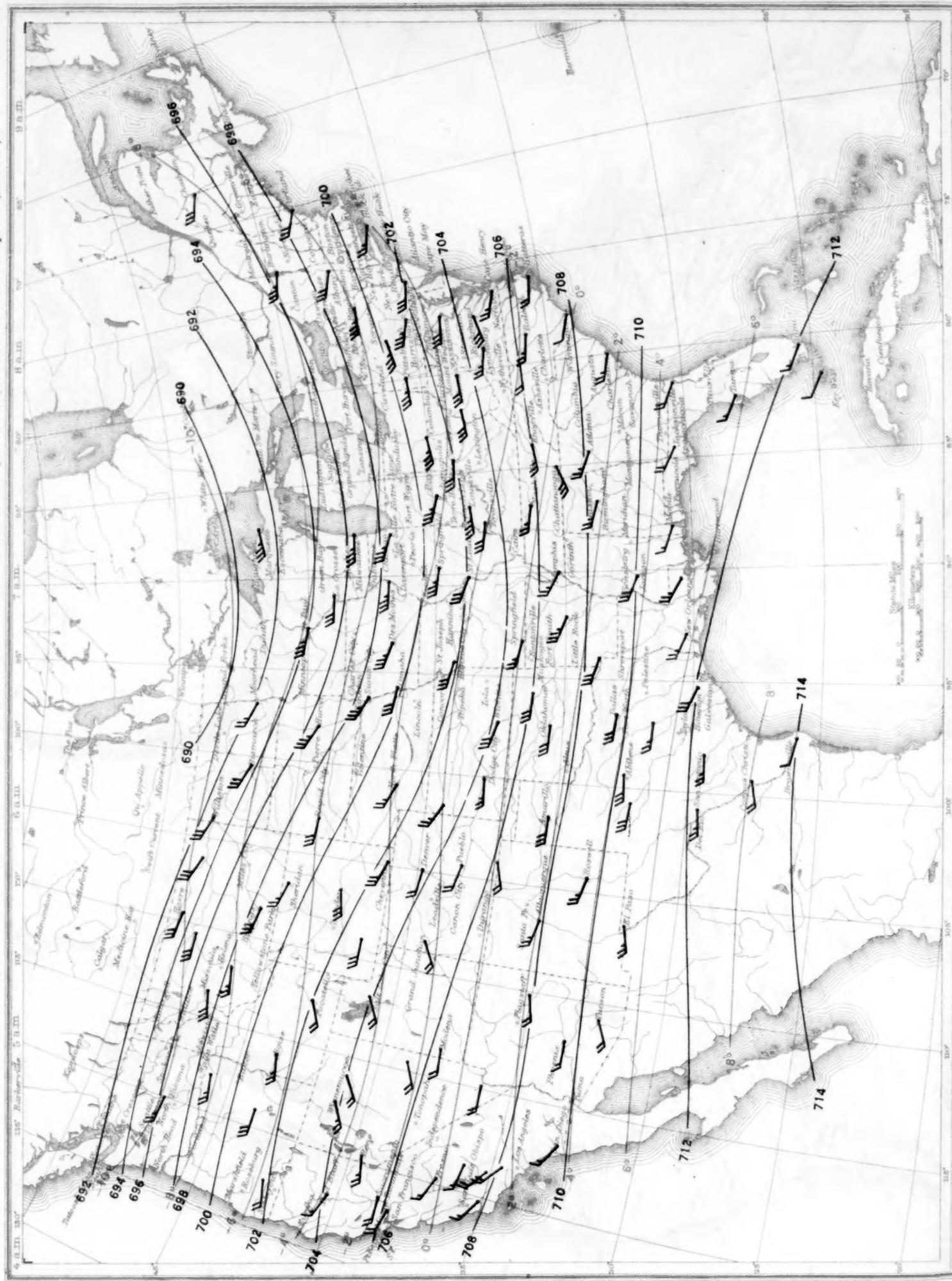


Chart X. Isobars (mb), Isotherms (°C.), and Resultant Winds for 5,000 Meters (m. s. l.) November 1945

Chart X. Isobars (mb), Isotherms ($^{\circ}\text{C}.$), and Resultant Winds for 5,000 Meters (m. s. l.) November 1945

Isobars and isotherms based on radiosonde observations at 11:00 p. m. (E. S. T.) and winds based on pilot balloon observations at 5:00 p. m. (E. S. T.).

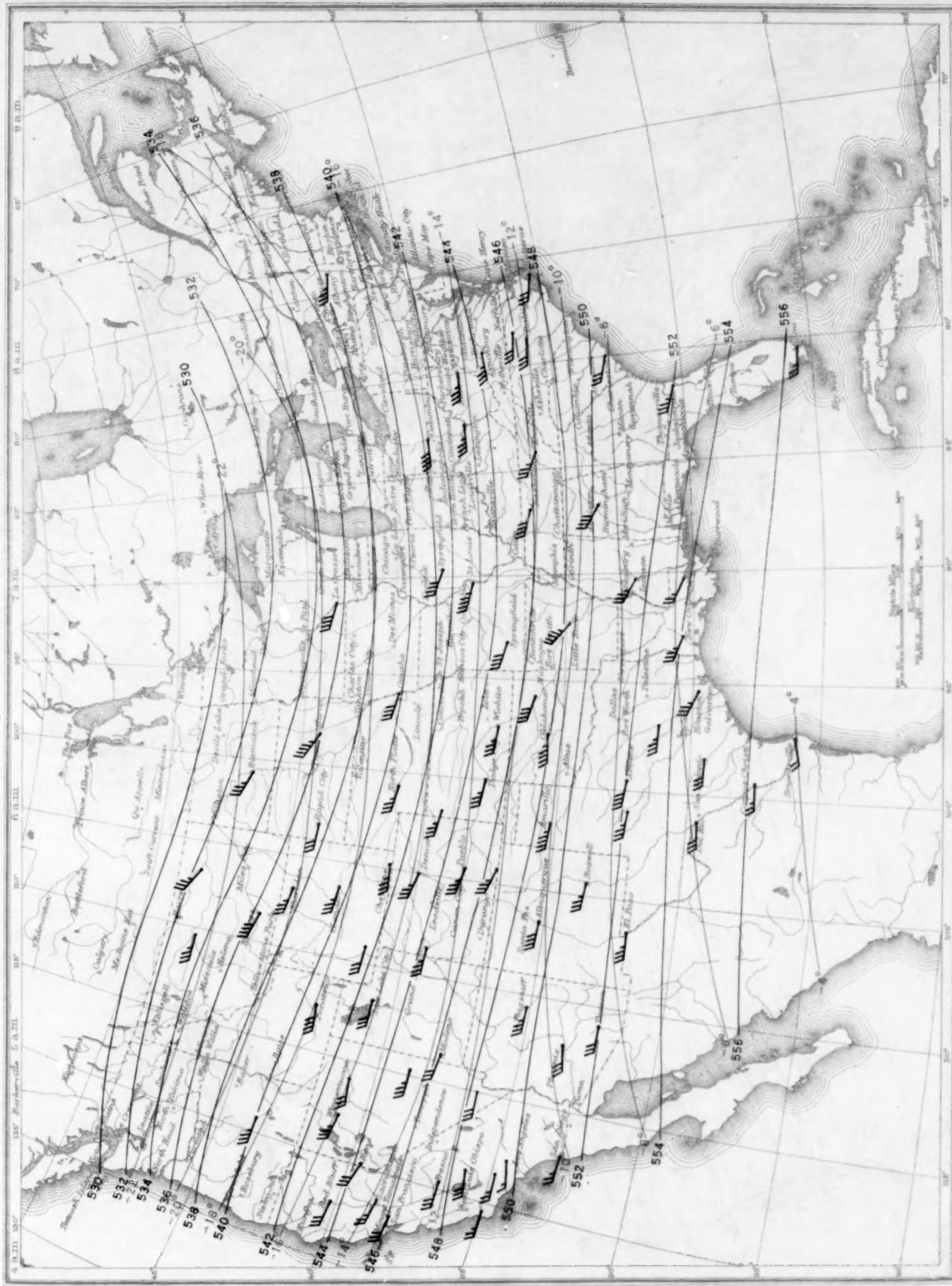


Chart XI. Isobars (mb), Isotherms (°C.), and Resultant Winds for 10,000 Meters (m. s. l.) November 1945
 Isobars and isotherms based on radiosonde observations at 11:00 p. m. (E. S. T.) and winds based on pilot balloon observations at 5:00 p. m. (E. S. T.).

